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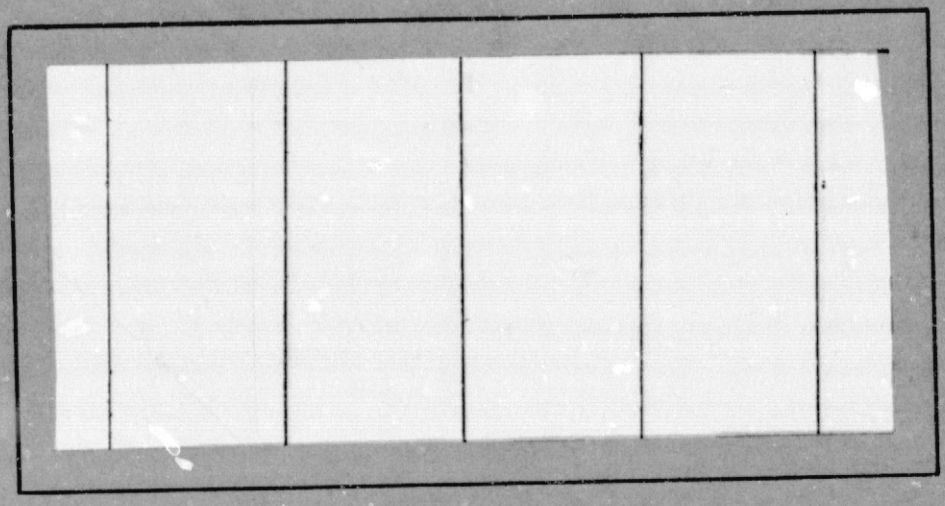

SCIENCE APPLICATIONS INCORPORATED

SAI-78-552-HU

FINAL REPORT PHASE I

(For Period October 15, 1976-April 14, 1977)

ANALYSIS OF VECTOR WIND CHANGE WITH RESPECT TO TIME FOR CAPE KENNEDY, FLORIDA

Contract NAS8-32226

WIND ALOFT PROFILE CHANGE VS. TIME

14 April 1977

Prepared By:

Stanley I. Adelfang

For:

National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

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16. ABSTRACT

Wind vector change with respect to time at Cape Kennedy, Florida, is examined according to the theory of multivariate normality. The joint distribution of the four variables represented by the components of the wind vector at an initial time and after a specified elapsed time is hypothesized to be quadravariate normal; the fourteen statistics of this distribution, calculated from fifteen years of twice daily Rawinsonde data are presented by monthly reference periods for each month from 0 to 27 km. The hypotheses that, the wind component change with respect to time is univariate normal, the joint distribution of wind component changes is bivariate normal and the modulus of vector wind change is Rayleigh is tested by comparison with observed distributions. Statistics of the conditional bivariate normal distributions of vector wind at a future time given the vector wind at an initial time are derived.

Wind changes over time periods from one to five hours, calculated from Jimsphere data are presented. Extension of the theoretical prediction (based on Rawinsonde data) of wind component change standard deviation to time periods of one to five hours falls (with a few exceptions) within the 95 percentile confidence band of the population estimate obtained from the Jimsphere sample data.

The joint distributions of wind change components, conditional wind components, and 1 km vector wind shear change components are illustrated by probability ellipses at the 95 percentile level.

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FOREWORD

This report describes an investigation performed under Contract NAS8-32226 to the National Aeronautics and Space Administration, George C. Marshall Space Flight Center (NASA/MSFC). Mr. Orvel E. Smith of MSFC Atmospheric Sciences Division, Space Sciences Laboratory, was the NASA Contracting Officer's Representative (COR). The author wishes to express his appreciation to Mr. Smith for the technical discussions and guidance during this effort. The achievements of this investigation could not have been possible without the analytical tools that have been developed in past investigations by the Space Sciences Laboratory.

The author wishes to acknowledge the contributions to this effort by other SAI personnel; Messrs. Willie Robinson and William Adcock* were responsible for the computer programming efforts utilizing the UNIVAC 1108 computer and Mr. John Hickey prepared the programs for the Space Sciences Laboratory Hewlett Packard 21 MX computer.

*Not presently affiliated with SAI.

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I. INTRODUCTION

It is anticipated that launches associated with the Orbital Flight Test (OFT) missions of the Space Shuttle will be conducted under highly constrained wind profile conditions. This will require the establishment of techniques to minimize the probability of exceeding design maximum wind loading during ascent. Reduction of wind loading can be achieved by wind biasing the ascent trajectory. Ideally, the maximum reduction of wind loading would be achieved if the wind profile "seen" by the ascending vehicle is known prior to launch. This ideal can only be approximated in view of the temporal variability of the atmosphere, limitations in available measurement techniques and the time lag associated with implementing changes in the ascent vehicle wind bias program. However, acceptable wind loading can be achieved over most anticipated winds aloft conditions by designing a pre-launch wind monitoring plan which provides an estimate of in-flight winds within specified error bounds. The establishment of the wind monitoring plan will be based, in part, on knowledge of the statistics of wind change with respect to time.

This study of wind change over Cape Kennedy, Florida, is based on a large sample of winds aloft data (14,610 Rawinsonde profiles) obtained during a fifteen year period. Wind change is expressed in terms of component change, unconditional and conditional joint distribution of component changes, modulus of vector change and the joint distribution of wind shear component change.

This report consists of a brief discussion of technical background (Section II), an analysis of wind change statistics (Section III), a discussion of conclusions and recommendations (Section IV), and listings of the calculated monthly statistics of wind change with respect to time at 1 km altitude increments from 0 to 27 km (Appendix).

II. · TECHNICAL BACKGROUND

A. DATA

Wind change statistics for periods from 12 to 72 hours are calculated from the serially complete (0-27 km) Rawinsonde data at 1 km altitude intervals obtained twice daily during the period 1956-70 at Cape Kennedy, Florida. The Rawinsonde data obtained four times daily during the period 1962-66 are used to verify extension (to time intervals of six hours) of theoretical distributions based on the twice daily 1956-70 data. Sequential Jimsphere wind profile data are used for analysis of wind changes for periods less than six hours.

B. COORDINATE SYSTEM

The basic winds aloft data are recorded in terms of wind direction, θ and magnitude, W. The wind vector is expressed in the standard meteorological coordinate system in which the direction from which the wind is blowing is measured in degrees clockwise from true north. The zonal component, u, of the wind vector is positive for a west (west to east) wind ($\theta=270^{\circ}$) and negative for an east (east to west) wind ($\theta=90^{\circ}$); the meridional component, v, is positive for a south (south to north) wind ($\theta=180^{\circ}$) and negative for a north (north to south) wind ($\theta=0^{\circ}$); u and v are obtained from θ and W according to:

$$u = -W \sin \theta , \qquad 0 \leq \theta \leq 360^{\circ} \qquad (1)$$

$$v = -W \cos \theta , \qquad (2)$$

The relation between θ defined above and the angle defined in the standard mathematical polar form is:

$$\theta = 270 - \theta_{Math} \qquad (3)$$

C. DEFINITIONS

For brevity, whenever feasible, the term temporal variability is used instead of "change with respect

to time". The subscript 0 is used to denote the initial value of a variable and the subscript 1 denotes the variable after an elapsed time, Δt. Thus:

$$\Delta u = u_1 - u_o \tag{4}$$

$$\Delta v = u_1 - v_o \tag{5}$$

Where, Δu and Δv are the components of the wind change for a specified Δt. The modulus, R, of the wind change with respect to time is given by:

$$R = \sqrt{(\Delta u)^2 + (\Delta v)^2} \tag{6}$$

The term wind shear is used exclusively in this report to describe the change of vector wind with respect to a specified vertical distance below a specified altitude. The modulus W_S, of the vector wind shear is

$$R = \sqrt{(u')^2 + (v')^2} \tag{7}$$

Where, u' is the zonal wind shear and v' is the meridional wind shear. It is conventional in discussions of wind shear calculations to use the term vector wind shear to represent the modulus of vector wind shear.

Zonal and meridional wind shear change with respect to time are denoted as follows:

$$\Delta u' = u_1' - u_o' \tag{8}$$

$$\Delta v' = v_1' - v_o' \tag{9}$$

The modulus of vector wind shear change with respect to time is

$$R = \sqrt{(\Delta u')^2 + (\Delta v')^2} \qquad (10)$$

The means are denoted by an overbar, the standard deviations and the correlation coifficients are denoted by σ_x and R(X,Y), respectively, with X and Y replaced with the notation appropriate to the variable of interest.

D. STATISTICS

The wind vector measurements at an initial time and after an elapsed time are treated in this investigation as a sample from a quadravariate normal distribution defined by the fourteen statistics listed below:

MEANS

$$\bar{u}_0,\ \bar{v}_0,\ \bar{u}_1,\ \bar{v}_1$$

STANDARD DEVIATIONS

$$\sigma_{u_0},\ \sigma_{v_0},\ \sigma_{u_1},\ \sigma_{v_1}$$

CORRELATION COIFFICIENTS

$$R(u_0, v_0)\ ,\ R(u_0, u_1)$$

$$R(v_0, v_1)\ ,\ R(u_1, v_1)$$

$$R(u_1, v_0)\ ,\ R(v_1, u_0)$$

The fourteen statistics of the quadravariate normal distribution of vector wind difference with respect to time consist of the five bivariate normal statistics of vector wind at an initial time ($\overline{u}_o$, $\overline{v}_o$, σ_{u_o}, σ_{v_o} and $R(u_o, v_o)$) and the nine statistics involving component differences which can be calculated from the quadravariate statistics listed above according to the following equations:

MEANS

$$\overline{\Delta u} = \overline{u_1 - u_0} = \overline{u_1} - \overline{u_0} \qquad (11)$$

$$\overline{\Delta v} = \overline{v_1 - v_0} = \overline{v_1} - \overline{v_0} \qquad (12)$$

STANDARD DEVIATIONS

$$\sigma_{\Delta u} = \sqrt{\sigma_{u_1}^2 + \sigma_{u_0}^2 - 2\sigma_{u_1}\sigma_{u_0} R(u_1, u_0)} \qquad (13)$$

$$\sigma_{\Delta v} = \sqrt{\sigma_{v_1}^2 + \sigma_{v_0}^2 - 2\sigma_{v_1}\sigma_{v_0} R(v_1, v_0)} \qquad (14)$$

Where R(x,y) is the correlation coefficient of variables x and y.

CORRELATION COEFFICIENTS

$$R(u_0, \Delta u) = \frac{\sigma_{u_1} R(u_0, u_1) - \sigma_{u_0}}{\sigma_{\Delta u}} \qquad (15)$$

Where

$\sigma_{\Delta u}$ is obtained from Equation 13

$$R(v_0, \Delta v) = \frac{\sigma_{v_1} R(v_0, v_1) - \sigma_{v_0}}{\sigma_{\Delta v}} \quad (16)$$

Where $\sigma_{\Delta v}$ is obtained from Equation 14

$$R(\Delta u, v_0) = \frac{\sigma_{u_1} R(v_0, u_1) - \sigma_{u_0} R(u_0, v_0)}{\sigma_{\Delta u}} \quad (17)$$

$$R(\Delta v, u_0) = \frac{\sigma_{v_1} R(u_0, v_1) - \sigma_{v_0} R(u_0, v_0)}{\sigma_{\Delta v}} \quad (18)$$

$$R(\Delta u, \Delta v) = \frac{\begin{array}{l}[\sigma_{u_1} \sigma_{v_1} R(u_1, v_1) - \sigma_{u_1} \sigma_{v_o} R(u_1, v_o) \\ + \sigma_{u_o} \sigma_{v_1} R(u_o, v_1) + \sigma_{u_o} \sigma_{v_o} R(u_o\ v_o)]\end{array}}{\sigma_{\Delta u}\ \sigma_{\Delta v}} \quad (19)$$

III. ANALYSIS

A. INTRODUCTION

The statistics presented in the appendix of this report can be useful in the establishment of a basis for certain aspects of Space Shuttle Launch planning. A pre-launch wind monitoring program may be required to provide data for assessment or modification of the Space Shuttle wind bias program. The development and utilization of the wind monitoring program will require knowledge of the magnitude of vector wind change with respect to time. The analysis presented in this section establishes a theoretical basis for estimation of wind change. This is accomplished by comparision of theoretical probability distributions, which contain wind change sample statistics as parameters (from the appendix of this report), to observed probability distributions of wind change. Wind change with respect to time is analyzed herein in terms of wind component change, unconditional and conditional joint distribution of wind component change, modulus of vector wind change, and the joint distribution of wind shear component change.

B. WIND COMPONENT CHANGE WITH RESPECT TO TIME

The theoretical probability distribution of wind component change with respect to time is univariate normal with zero mean and standard deviation given by Equations 13 and 14; the assumption of zero means of component differences is verified by the sample statistics given in the appendix. The theoretical normal distribution of component differences can be derived by using either the standard deviations of component differences given in the appendix or an estimate which can be obtained from the standard deviation of the components if it is assumed that:

$$\sigma_{u_o} = \sigma_{u_1} = \sigma_u$$

$$\sigma_{v_o} = \sigma_{v_1} = \sigma_v$$

Equations 13 and 14 reduce to

$$\sigma_{\Delta u} = \sqrt{2}\ \sigma_u \sqrt{1 - R(u_1, u_o)} \tag{20}$$

$$\sigma_{\Delta v} = \sqrt{2}\ \sigma_v \sqrt{1 - R(v_1, v_o)} \tag{21}$$

The wind component autocorrelation functions, $R(u_1, u_o)$ and $R(v_1, v_o)$ can be represented by a negative expontial function of time increment, τ, i.e.,

$$R(u_1, u_o) = \text{EXP}\ (-b\tau) \tag{22}$$

$$R(v_1, v_o) = \text{EXP}\ (-c\tau) \tag{23}$$

where b and c are computed according to

$$b = -\frac{\sum_i \tau_i \ln R_i\ (u_1, u_o)}{\sum_i \tau_i^2}$$

$$c = -\frac{\sum_i \tau_i \ln R_i\ (v_1, v_o)}{\sum_i \tau_i^2}$$

Examples of the decay of the autocorrelation function at 12 km during January, April and July at Cape Kennedy are illustrated in Figure 1; the lines in the figure represent the decay rate predicted by Equations 22 and 23.

Substitution of Equations 22 and 23 into 20 and 21, respectively, yields a simple expression for $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ in terms of σ_u and σ_v, respectively.

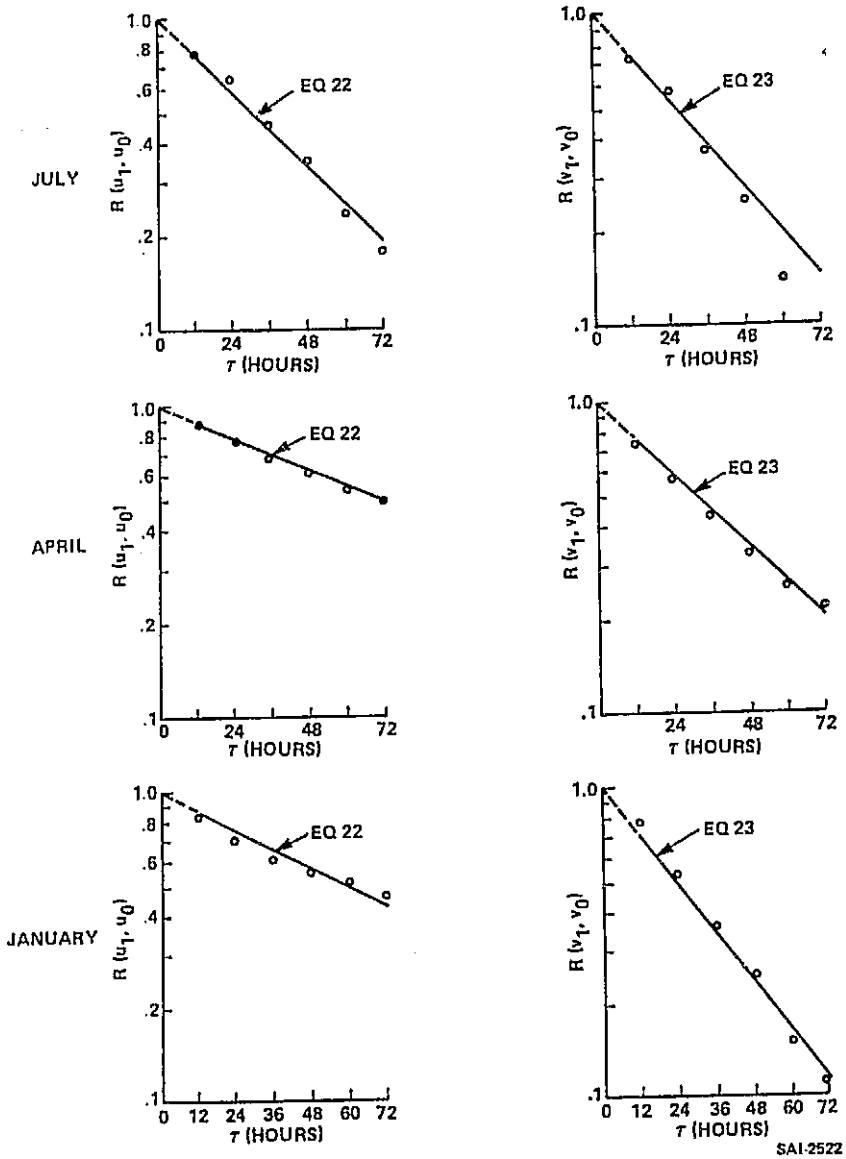


Figure 1. Zonal and Meridional Wind Component Autocorrelation at 12 km at Cape Kennedy, Florida (1956-70)

$$\sigma_{\Delta u} = \sqrt{2}\ \sigma_u \sqrt{1 - \text{EXP}\ (-b\tau)} \qquad (24)$$

$$\sigma_{\Delta v} = \sqrt{2}\ \sigma_v \sqrt{1 - \text{EXP}\ (-c\tau)} \qquad (25)$$

Equations 24 and 25 indicate that $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ are asymptotic to $\sqrt{2}\ \sigma_u$ and $\sqrt{2}\ \sigma_v$ for large values of τ. Therefore, estimates of the extreme value of $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ are obtained by setting τ equal to ∞ in equations 24 and 25.

The calculated values of b and c for KSC during January, April and July are plotted in Figures 2 through 4. The calculated and observed values of $\sigma_{\Delta u}(\tau)$ and $\sigma_{\Delta v}(\tau)$ at 1, 6, 12, 18 and 24 km during January, April and July are listed in Tables 1 through 3. The estimated extreme values of $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$, ($\sqrt{2}\ \sigma_u$ and $\sqrt{2}\ \sigma_v$, respectively), are listed at the bottom of each column of calculated values. The comparisons in Tables 1 through 3 indicate that $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ can be accurately estimated by application of Equations 24 and 25, respectively. General application of this estimation technique at other locations utilizing published statistics of wind component standard deviations (as in [4] for example) would require a more adequate knowledge of the form of the autocorrelation function than is presently available.

The theoretical distribution of wind component differences has been derived from sample estimates of $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ and $\overline{\Delta u}$ and $\overline{\Delta v}$ (given in the appendix) for the intervals of 12, 24, 36 and 48 hours during January, April and July at 12 km over Cape Kennedy; the theoretical normal distributions are plotted as straight lines in Figures 5 through 10; the plotted symbols represent the observed distributions of Δu and Δv. It is indicated that the observed distribution of component changes is either accurately or conservatively represented by the theoretical normal distribution for probabilities from .023 to .977.

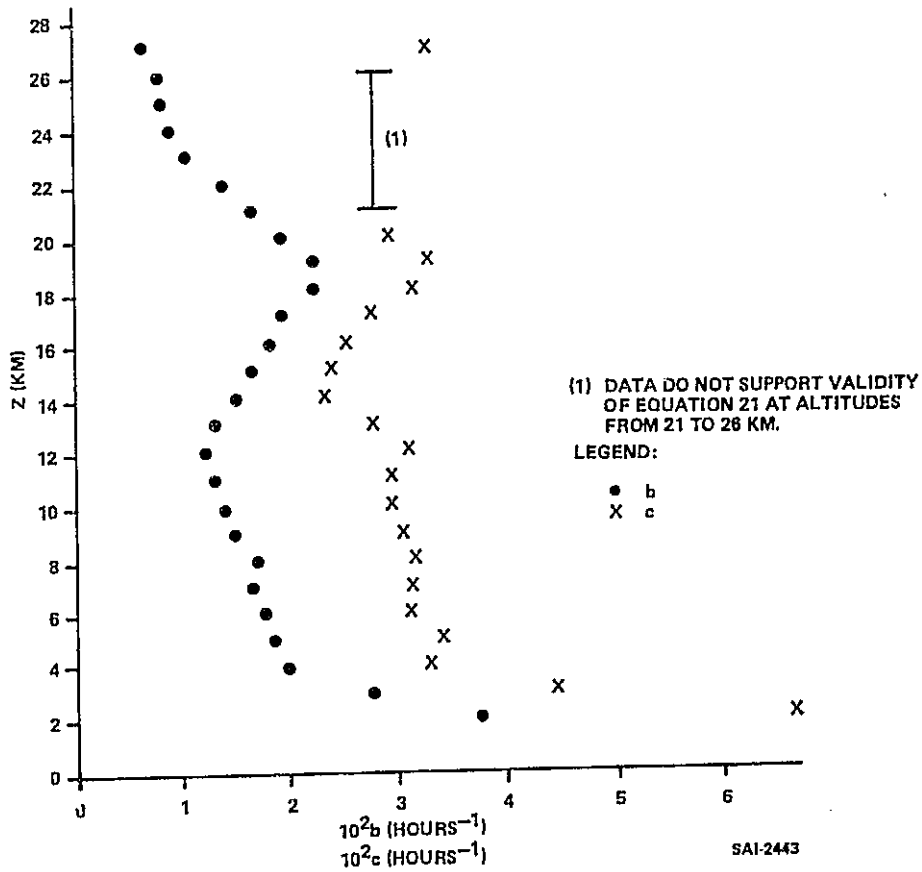


Figure 2. Constants b and c of Equations 24 and 25 for Cape Kennedy during January (1956-70)

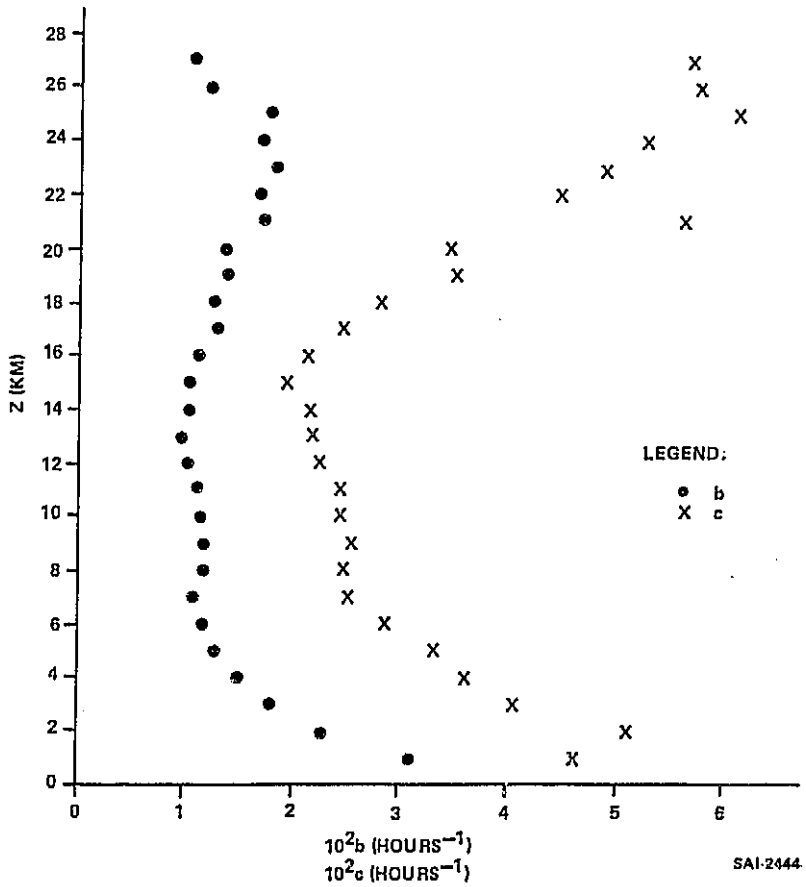


Figure 3. Constants b and c of Equations 24 and 25 for Cape Kennedy during April

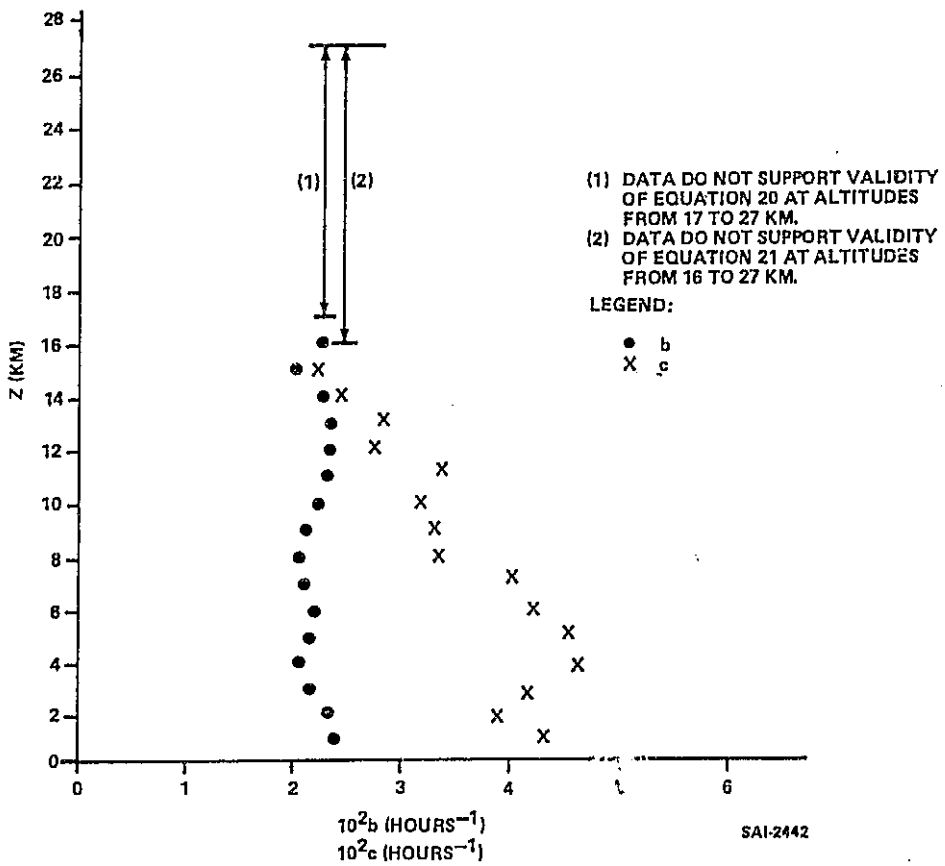


Figure 4. Constants b and c of Equations 24 and 25 for Cape Kennedy during July (1956-70)

Table 1. Calculated [Eqs. 24, 25] and Observed $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ during January at Cape Kennedy at 1, 6, 12, 18 and 24 KM

		$\sigma_{\Delta u}$		$\sigma_{\Delta v}$	
	τ (Hours)	Calc.	Obs.	Calc.	Obs.
24 KM	12	4.09	5.63		4.07
	24	5.63	6.36		4.09
	36	6.72	7.08		4.69
	48	7.58	7.56	*	4.67
	60	8.27	8.14		5.06
	72	8.85	8.51		4.99
	∞	12.91	-		
18 KM	12	5.31	6.60	4.59	4.44
	24	7.06	7.36	5.96	5.40
	36	8.15	8.35	6.75	6.29
	48	8.90	8.94	7.24	6.94
	60	9.43	9.49	7.56	7.49
	72	9.82	9.78	7.78	7.75
	∞	11.02	-	8.23	-
12 KM	12	7.69	8.70	11.48	9.94
	24	10.51	11.62	14.93	14.20
	36	12.45	13.34	16.92	16.54
	48	13.92	14.47	18.17	17.86
	60	15.08	15.18	18.98	18.88
	72	16.02	15.87	19.53	19.36
	∞	21.17	-	20.70	-
6 KM	12	6.05	6.58	7.53	7.73
	24	8.13	8.45	9.79	10.29
	36	9.49	9.90	11.09	11.48
	48	10.47	10.80	11.90	12.18
	60	11.19	11.22	12.44	12.27
	72	11.75	11.76	12.79	12.32
	∞	13.86	-	13.55	-
1 KM	12	6.92	5.64	7.70	5.82
	24	8.52	8.04	8.63	7.73
	36	9.23	9.31	8.85	8.86
	48	9.58	9.70	8.90	9.23
	60	9.75	9.70	8.92	9.10
	72	9.84	9.62	8.92	8.87
	∞	9.93	-	8.92	-

*Validity of Eq. 25 not supported by the data at 24 KM

Table 2. Calculated [Eqs. 24, 25] and Observed $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ During April at Cape Kennedy at 1, 6, 12, 18 and 24 KM

		$\sigma_{\Delta u}$		$\sigma_{\Delta v}$	
	τ (Hours)	Calc.	Obs.	Calc.	Obs.
24 KM	12	3.14	4.06	2.86	3.42
	24	4.24	4.41	3.55	3.36
	36	4.97	4.94	3.86	3.90
	48	5.49	5.23	4.02	3.93
	60	5.89	5.81	4.11	4.16
	72	6.19	6.11	4.15	4.24
	∞	7.45	-	4.20	-
18 KM	12	4.08	5.35	3.93	4.00
	24	5.57	6.27	5.15	5.01
	36	6.60	6.91	5.87	5.81
	48	7.37	7.46	6.34	6.34
	60	7.98	7.80	6.65	6.62
	72	8.47	7.89	6.87	6.78
	∞	11.10	-	7.40	-
12 KM	12	8.25	8.31	9.51	9.81
	24	11.33	11.29	12.65	12.88
	36	13.48	13.55	14.60	14.82
	48	15.14	15.04	15.94	16.05
	60	16.47	16.27	16.90	16.87
	72	17.57	17.10	17.59	17.34
	∞	24.52	-	19.71	-
6 KM	12	5.38	5.78	5.53	5.69
	24	7.35	7.71	7.24	7.27
	36	8.72	9.02	8.24	8.57
	48	9.76	9.70	8.89	9.18
	60	10.58	10.45	9.32	9.38
	72	11.25	10.93	9.61	9.33
	∞	15.03	-	10.31	-
1 KM	12	5.16	4.99	4.84	4.69
	24	6.71	6.83	6.08	6.08
	36	7.60	8.07	6.69	7.15
	48	8.16	8.34	7.02	7.45
	60	8.52	8.40	7.20	7.50
	72	8.76	8.27	7.30	7.48
	∞	9.28	-	7.44	-

Table 3. Calculated [Eqs. 24, 25] and Observed $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ during July at Cape Kennedy at 1, 6, 12, 18 and 24 KM

		$\sigma_{\Delta u}$		$\sigma_{\Delta v}$	
	τ (Hours)	Calc.	Obs.	Calc.	Obs.
24 KM	12		4.06		4.11
	24		3.91		3.59
	36		4.18		4.13
	48	*	4.13	*	3.57
	60		4.53		4.15
	72		4.36		3.75
	∞		-		-
18 KM	12		3.17		3.84
	24		2.99		3.14
	36		3.50		3.95
	48	*	3.66	*	3.63
	60		3.78		4.03
	72		3.88		3.79
	∞		-		-
12 KM	12	6.76	6.46	5.54	5.49
	24	8.97	8.23	7.27	6.90
	36	10.34	10.17	8.29	8.27
	48	11.26	11.08	8.96	8.97
	60	11.92	11.98	9.42	9.61
	72	12.39	12.29	9.73	9.85
	∞	13.77	-	10.51	-
6 KM	12	3.33	3.45	3.68	3.66
	24	4.43	4.21	4.66	4.12
	36	5.13	5.12	5.16	4.94
	48	5.60	5.54	5.45	5.30
	60	5.94	5.95	5.61	5.59
	72	6.19	6.19	5.71	5.69
	∞	6.97	-	5.85	-
1 KM	12	3.09	2.95	2.95	3.06
	24	4.09	3.46	3.74	3.37
	36	4.71	4.45	4.14	4.06
	48	5.12	4.95	4.36	4.26
	60	5.42	5.51	4.49	4.51
	72	5.62	5.74	4.57	4.49
	∞	6.22	-	4.68	-

*Validity of Eqs. 24 and 25 not supported by the data at 18 and 24 KM

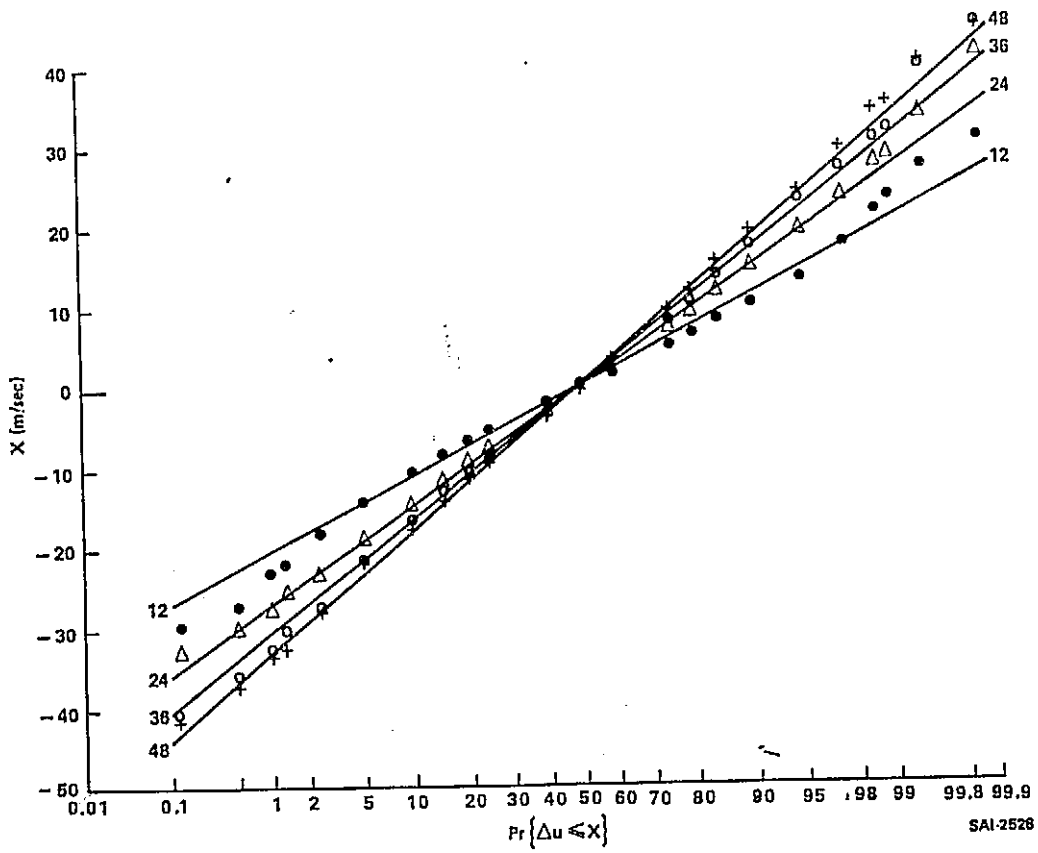


Figure 5. Theoretical (straight lines) and observed (plotted points) cumulative probability distribution of zonal wind component change, Δu, with respect to time increment, τ, during January at 12 km at Cape Kennedy (1956-70)

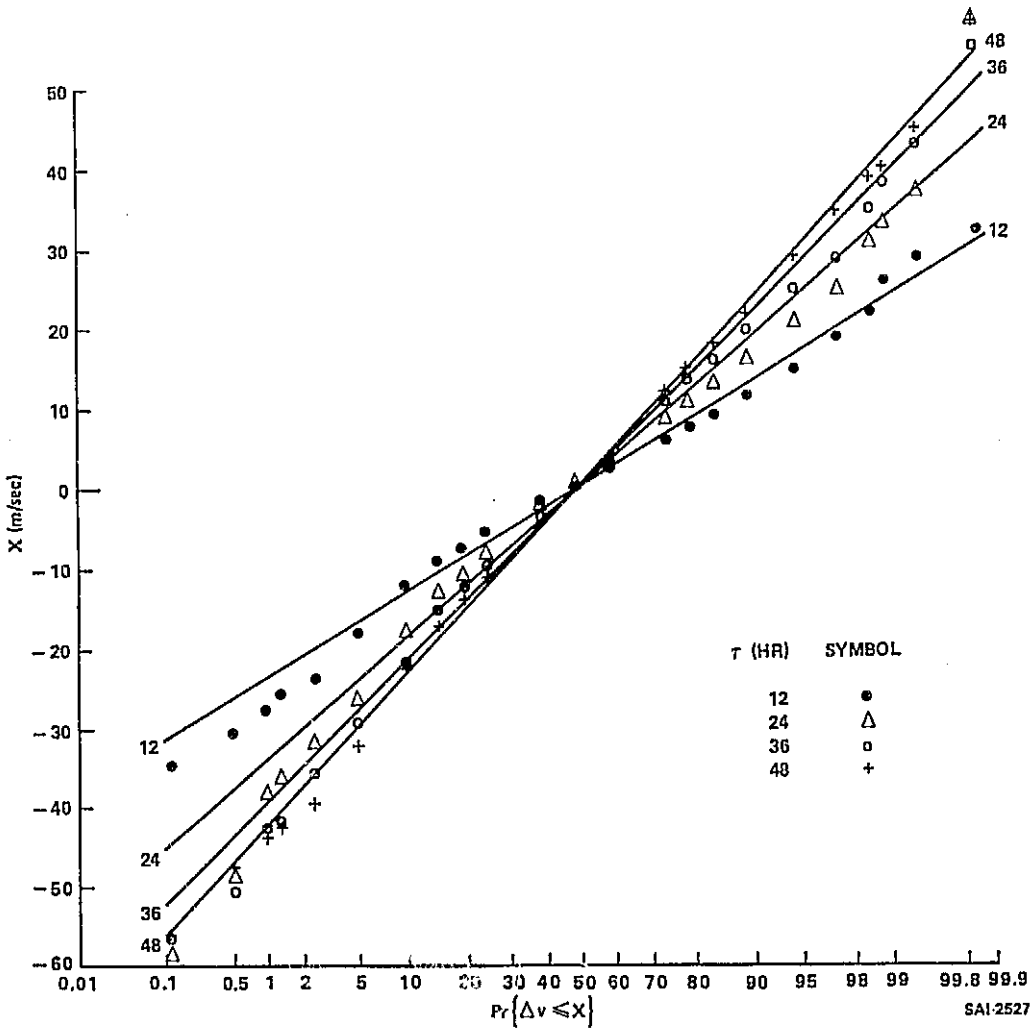


Figure 6. Theoretical (straight lines) and observed (plotted points) cumulative probability distribution of meridional wind component change, Δv, with respect to time increment, τ, during January at 12 km at Cape Kennedy (1956-70)

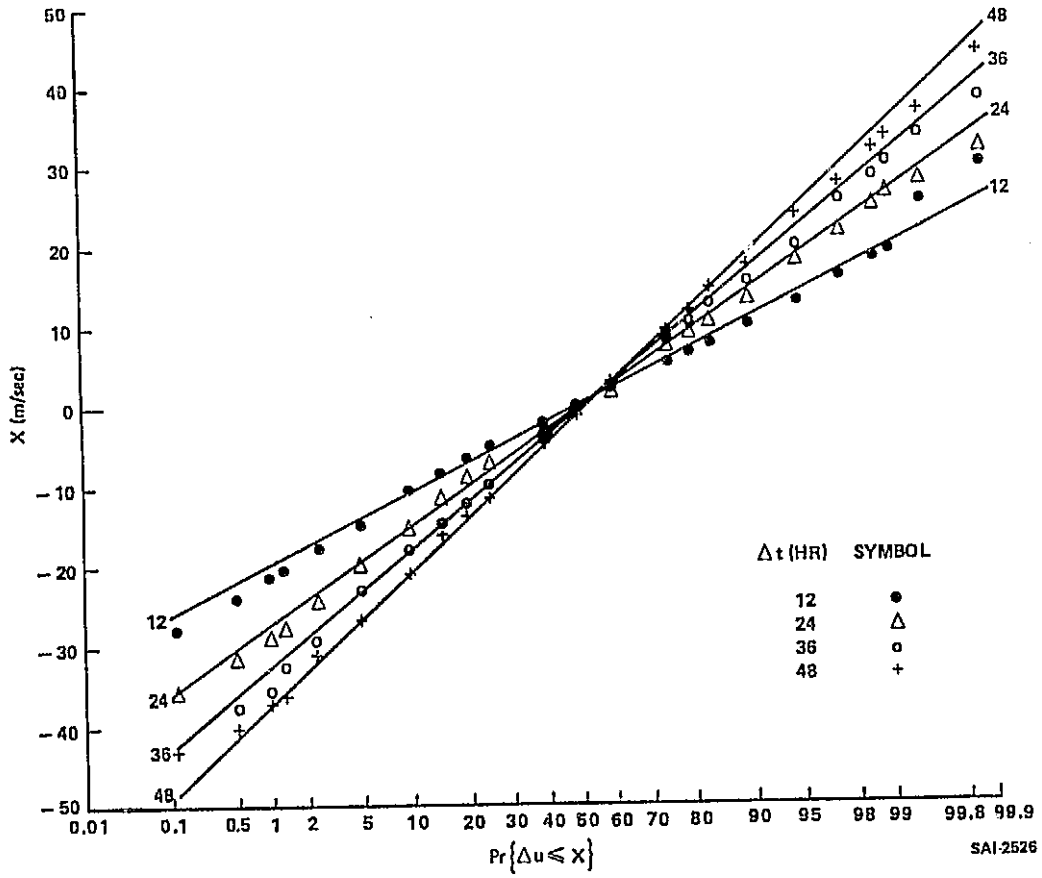


Figure 7. Theoretical (straight lines) and observed (plotted points) cumulative probability distribution of zonal wind component changes, Δu, with respect to time increment, τ, during April at 12 km at Cape Kennedy (1956-70)

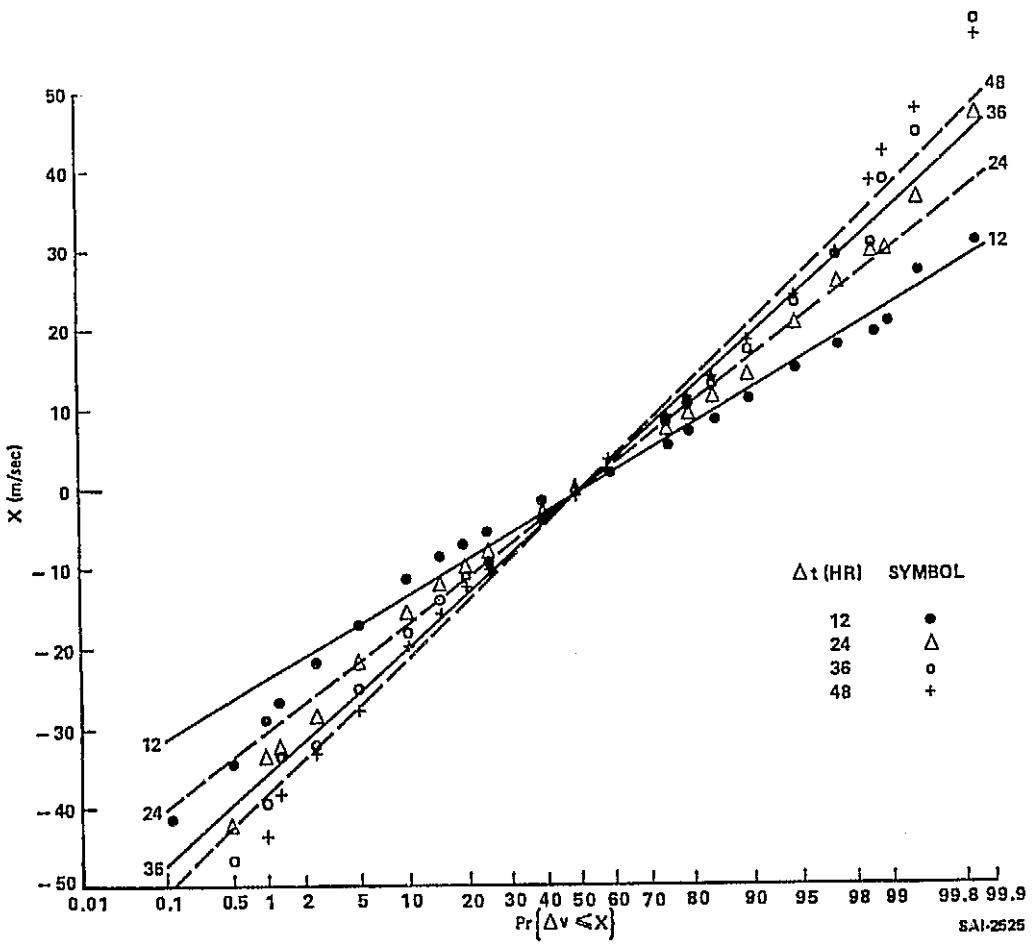


Figure 8. Theoretical (straight lines) and observed (plotted points) cumulative probability distribution of meridional wind component change, Δv, with respect to time increment, τ, during April at 12 km at Cape Kennedy (1956-70)

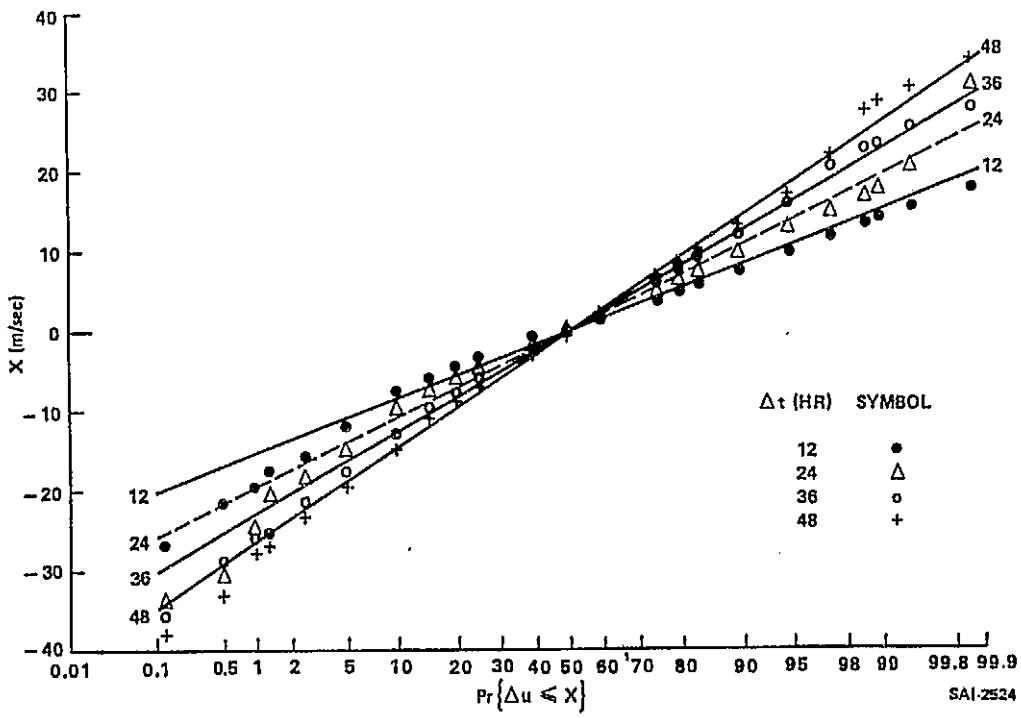


Figure 9. Theoretical (straight lines) and observed plotted points) cumulative probability distribution of zonal wind component change, Δu, with respect to time increment, τ, during July at 12 km at Cape Kennedy (1956-70)

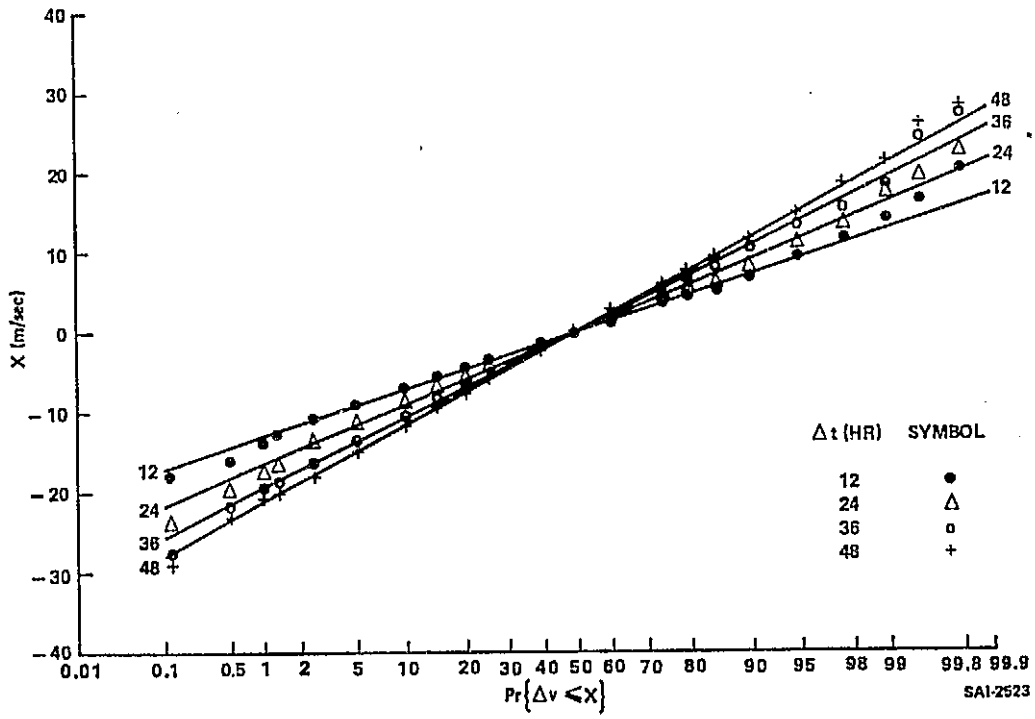


Figure 10. Theoretical (straight lines) and observed (plotted points) cumulative probability distribution of meridional wind component change, Δv, with respect to time increment, τ, during July at 12 km at Cape Kennedy (1956-70)

C. JOINT DISTRIBUTION OF WIND COMPONENT CHANGES WITH RESPECT TO TIME

The joint distribution of zonal and meridional wind component changes with respect to time (Δu and Δv) can be approximated by a bivariate normal distribution. A useful property of such a distribution is that an ellipse can be calculated which contains the end points of a specified percent of vectors having components Δu and Δv. A detailed description of the derivation of probability ellipses and plotting methodology is given by Smith [2]. The five parameters of the bivariate normal distribution of Δu and Δv, calculated for each monthly reference period at Cape Kennedy at 1 km altitude intervals from 0 to 27 km are listed in the appendix.

The degree of approximation of the bivariate normal distribution to the observed distribution can be evaluated by comparison of the observed percentage of vectors which are contained within the ellipse to that predicted by the ellipse at a specified probability level. For example, for a sample of 1,000 vectors, 950 of the vectors should terminate within the 95 percent (theoretical P = .95) ellipse calculated from the bivariate statistics of the 1,000 vectors; however, a plot of the 1,000 vectors could indicate that only 45 vectors (observed P=.955) terminate within the 95 percent ellipse. For illustration on a linear graph comparison of the theoretical to the observed P is given in terms of the parameter λ_e given by

$$\lambda_e = \sqrt{2}\ \sqrt{-\ln\ (1-P)} \qquad (26)$$

A comparison of theoretical and observed values of λ_e for January, July and April at 12 km for time intervals of 12, 24, 36 and 48 hours is illustrated in Figures 11 thru 13. Perfect agreement between theoretical and observed λ_e is represented by a line drawn from the origin with a slope, B, equal to 1. The calculated least squares slopes are given in

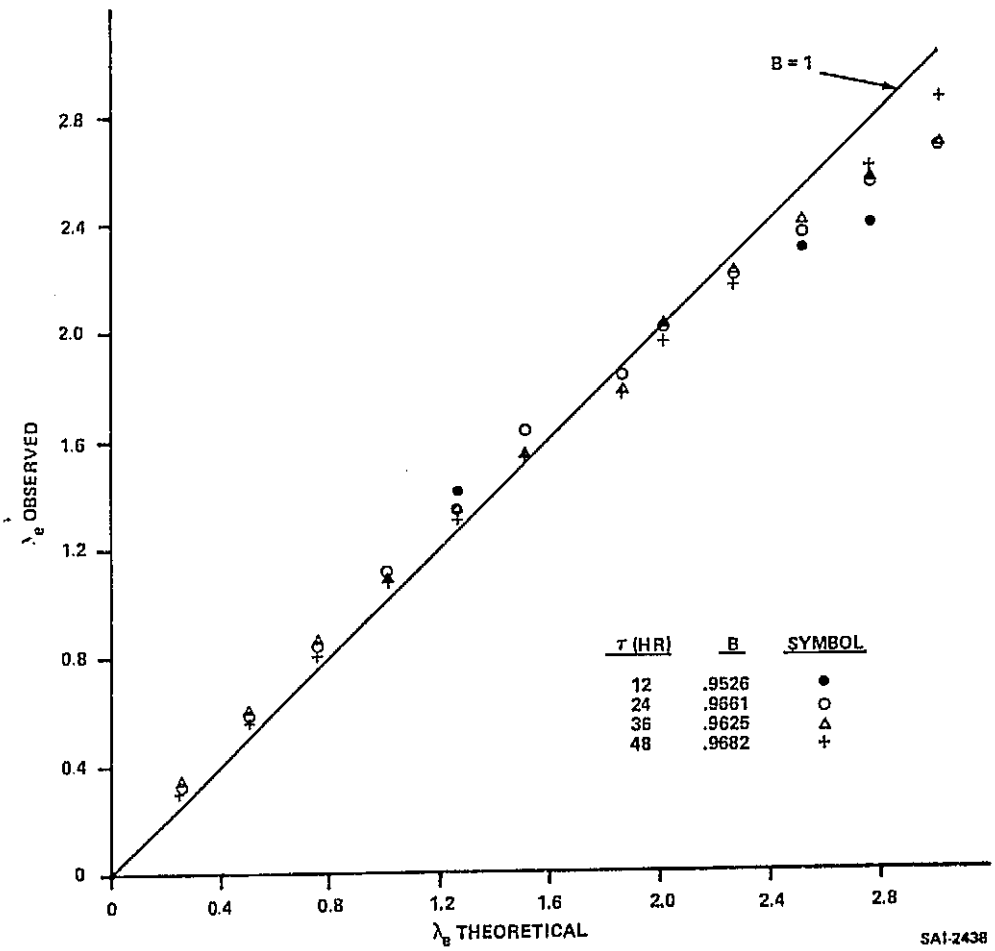


Figure 11. Observed λ_e as a Function of Theoretical λ_e for a Bivariate Normal Distribution of Wind Component Changes (Δu, Δv) with Respect to Time at 12 KM During January (1956-70) at KSC

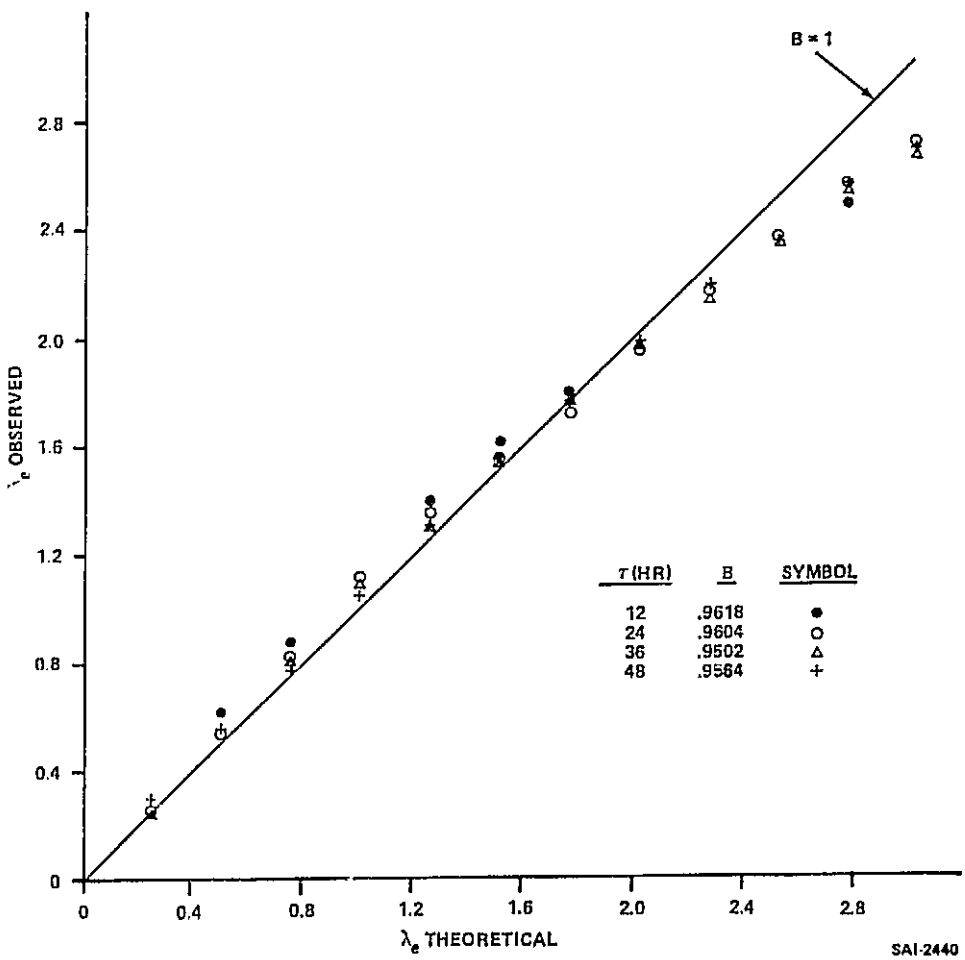


Figure 12. Observed λ_e as a Function of Theoretical λ_e for a Bivariate Normal Distribution of Wind Component Changes (Δu, Δv) with Respect to Time at 12 KM During April (1956-70) at KSC

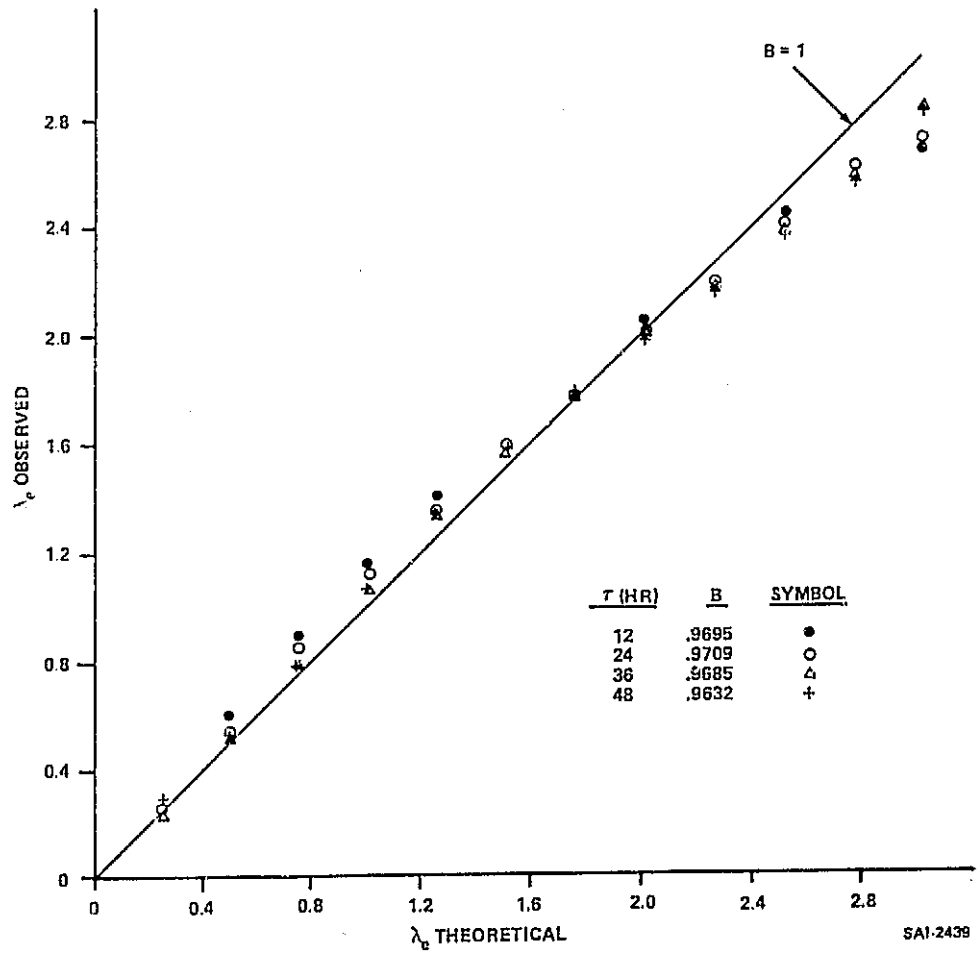


Figure 13. Observed λ_e as a Function of Theoretical λ_e for a Bivariate Normal Distribution of Wind Component Changes (Δu, Δv) with Respect to Time During July (1956-70) at 12 KM at KSC

the figure legend. The plots indicate an agreement between theory and observation for $P \leq .95$ ($\lambda_e \leq 2.4477$). For $P > .95$ the theoretical λ_e exceeds the observed λ_e. The interpretation of these results is that for extreme probabilities the theoretical distributions predict fewer wind change vectors terminating outside the ellipse than is observed. These results may have to be taken into consideration if engineering application of theoretical wind change statistics beyond the 95 percent level is required.

The 95 percent probability ellipses for the joint distribution of wind component changes with respect to time at 6, 12, 18 and 24 km during January, April and July are illustrated in Figure 14; the relatively small changes with respect to time during July, the similarities between April and January and the large changes at 12 km are clearly illustrated.

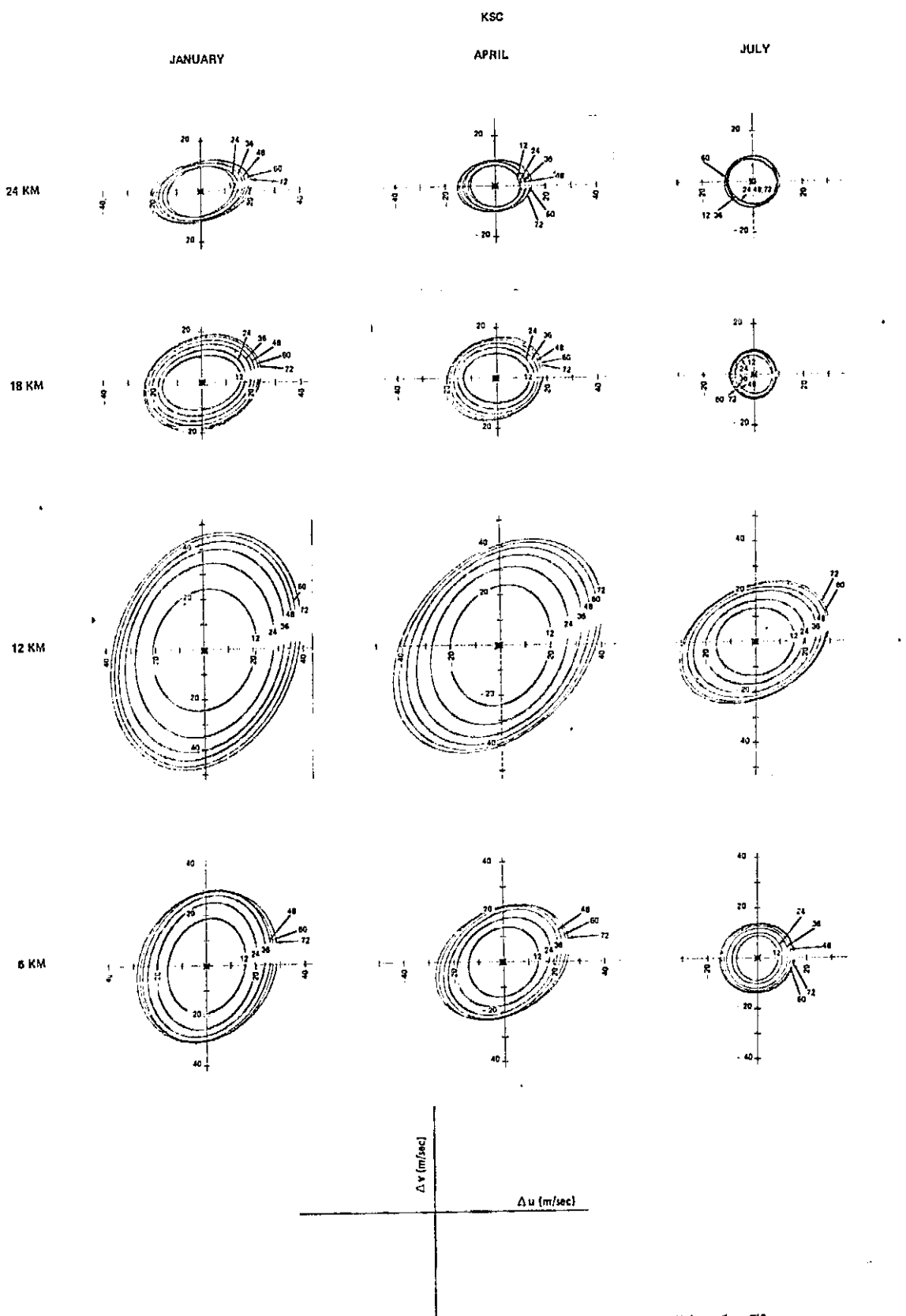


Figure 14. January, April and July 95 Percent Wind Change Ellipses for Time Increments of 12, 24, 36, 48, 60 and 72 Hours at 6, 12, 18 and 24 KM Over KSC

D. MODULUS OF VECTOR WIND CHANGE WITH RESPECT TO TIME

If wind changes with respect to time have a distribution which is bivariate normal, the modulus R, of the wind change vector (defined by Equation 6) has a Rayleigh distribution. Since the Rayleigh distribution cannot be integrated in closed form, numerical integration is required to obtain the cumulative probability distribution. Derivation of the Rayleigh distribution, given the five bivariate normal distribution statistics, requires summation involving products of the modified Bessel function of the first kind. Smith [2] summarizes the basic equations for the Rayleigh distribution derived by Wier [3] and extended by Yadavalli [4] to include the condition for correlated variables. The Rayleigh distribution reduces to the integrable classical form if it is assumed that the components of the vector wind change are independent and that they have zero means and equal standard deviations; the classical Rayleigh probability density function is

$$f(R) = \frac{R}{\sigma^2} \text{ EXP } (-R^2/2\sigma^2) \quad R \geq 0 \qquad (27)$$

Integration of Equation 27 from zero to a specified value of R yields the cummulative probability that $R \leq R^*$ where,

$$\Pr\left\{R \leq R^*\right\} = 1 - \text{EXP } (-R^2/2\sigma^2) \quad R \geq 0 \qquad (28)$$

where $\sigma = \sigma_{\Delta u} = \sigma_{\Delta v}$

Since the standard deviation of the component difference can be expressed as a function of the standard deviation of the components (Equations 24 and 25) it follows that

$$\Pr\left\{R \leq R^*\right\} = 1 - \text{EXP}\left[-\frac{R^2}{4\sigma_k^2\ [1-\text{EXP}\ (-k\tau)]}\right] \qquad (29)$$

where σ_k and k correspond to either σ_u and b or σ_v and C given in Equations 24 and 25.

An expression for R given a particular probability, Pr [R $\leq$ R*], is obtained by solution of Equation 29 to obtain

$$R = \sqrt{2}\ \lambda_e \sigma_k \sqrt{1 - \text{EXP}\ (-k\tau)} \qquad (30)$$

where λ_e is derived from Equation 26 denoting Pr [R $\leq$ R*] by P

The choice of $\sigma_k = \sigma_v$ and k = c (from Equation 25) at 12 km during January, April, and July yields the most accurate approximation of the cummulative Rayleigh distribution obtained by numerical integration of Equation 28 in Reference 1. A comparison of the 99, 95, and 50 percentile modulus of the wind change vector with respect to time based on the Rayleigh (Equation 28, Reference 1) and the classical Rayleigh (Equation 29) is illustrated in Figure 15; the rather good agreement indicated for April at 12 km for time intervals from 12 to 72 hours is attributable to the accuracy of the simplifying assumptions described above.

The remaining question is: How well do these theoretical distributions compare with observed distributions? Comparisons of observed and theoretical values of R for time intervals of 12, 24, 36 and 48 hours at 12 km during January, April and July at KSC are given in Tables 4 through 6; column II of the tables contain R calculated according to the classical Rayleigh distribution with σ equal to the monthly value of σ_v at 12 km and k equal to the decay constant in the monthly exponential least squares fit to the v component autocorrelation function (Equation 23); column I was obtained by numerical integration of the Rayleigh distribution. It is indicated that the observed cumulative distribution agrees fairly well with the theoretical distribution for probabilities less than .95; the observed distribution exceeds the theoretical distribution for probabilities greater than .95.

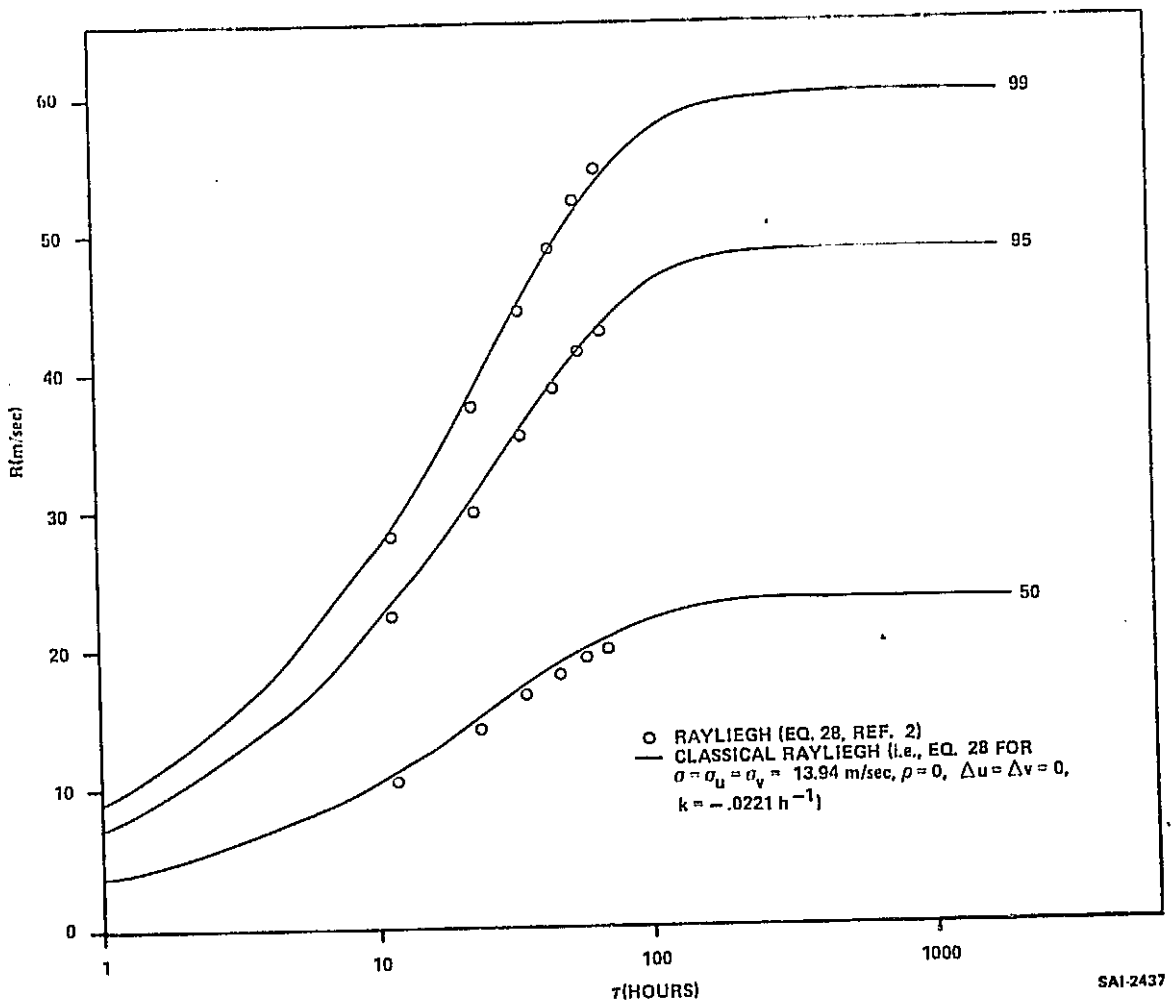


Figure 15. April Theoretical Percentiles of Modulus of Vector Wind Change (R) with Respect to Time Interval (τ) at 12 km Over KSC (1956-70)

τ(Hours)	12			24			36			48		
$Pr\{R \leq R^*\}$	I	II	OBSERVED	I	II	OBSERVED	I	II	OBSERVED	I	II	OBSERVED
.50	10.94	13.51	9.62	15.13	17.58	13.74	17.47	19.92	16.05	18.86	21.39	17.76
.60	12.60	15.54	11.20	17.43	20.22	16.02	20.13	22.90	18.96	21.74	24.59	20.83
.75	14.26	19.11	21.52	20.02	24.86	24.88	24.42	28.17	26.90	26.40	30.25	26.40
.80	16.74	20.59	15.72	23.22	26.79	21.92	26.88	30.35	26.74	29.06	32.59	29.18
.84134	17.92	22.02	17.51	24.38	28.65	23.92	28.82	32.46	28.59	31.17	34.86	31.97
.850	18.20	22.36	17.77	25.27	29.08	24.34	29.27	32.95	29.08	31.66	35.38	32.34
.900	20.07	24.63	21.04	27.92	32.04	28.75	32.38	36.30	32.36	35.04	38.98	35.43
.95	22.96	28.09	25.75	32.00	36.55	35.21	37.19	41.41	40.17	40.29	44.46	42.45
.97502	25.57	31.18	29.46	35.71	40.57	39.59	41.55	45.96	44.29	45.03	49.35	46.95
.97725	25.88	31.57	29.81	36.18	41.08	40.21	42.09	46.53	44.64	45.66	49.97	47.92
.98734	27.88	33.93	33.31	39.02	44.14	45.23	45.48	50.01	50.41	49.35	53.70	53.06
.99000	28.66	34.83	33.92	40.13	45.32	49.70	46.78	51.34	51.70	50.77	55.13	53.67
.99500	30.81	37.36	39.12	43.24	48.61	57.35	50.46	55.07	58.17	54.79	59.13	56.78
.99865	34.57	41.73	41.74	48.65	54.28	60.74	56.86	61.50	64.86	61.80	66.03	61.74

COLUMN I: CALCULATIONS OF R BASED ON EQS. 28a AND 28b OF REF. 1 AND NUMERICAL INTEGRATION OF THE RAYLIEGH PROBABILITY DENSITY FUNCTION.

COLUMN II: CALCULATIONS OF R BASED ON EQ. 30 OF THIS TEXT AND ASSUMING $\sigma = \sigma_v = 14.64$ m/sec, $K = C = .0306\ hr^{-1}$ AND $\Delta u = \Delta v = 0$.

SAI-2446

Table 4. Theoretical and observed modulus, R, of vector wind change with respect to time for Cape Kennedy during January (1956-70) at 12 km

τ (HOURS)	12			24			36			48		
$Pr\{R \leq R^*\}$	I	II	Observed	I	II	Observed	I	II	Observed	I	II	Observed
.50	10.62	11.20	9.28	14.11	14.89	12.63	16.51	17.19	14.81	18.05	18.77	16.76
.60	12.23	12.88	10.93	16.26	17.12	14.77	19.02	19.77	17.81	20.82	21.58	19.46
.75	15.09	15.84	14.23	20.08	21.06	19.21	23.53	24.32	22.26	25.76	26.54	24.35
.80	16.29	17.07	15.62	21.69	22.69	21.13	25.41	26.20	24.06	27.83	28.60	26.88
.84134	17.45	18.26	16.87	23.24	24.27	23.14	27.24	28.02	26.59	29.85	30.59	28.66
.850	17.67	18.53	17.27	23.55	24.64	23.25	27.64	28.44	27.20	30.32	31.05	29.18
.900	19.58	20.42	19.78	26.08	27.14	26.20	30.62	31.34	30.77	33.57	34.21	33.37
.95	22.43	23.29	23.71	29.92	30.96	32.67	35.17	35.74	37.78	38.60	39.02	40.20
.97502	24.97	25.85	28.76	33.41	34.35	36.26	39.30	39.67	43.51	43.15	43.30	46.76
.97725	25.32	26.17	29.31	33.81	34.79	37.13	39.80	40.17	44.52	43.70	43.85	47.51
.98734	27.31	28.13	34.20	36.54	37.39	42.30	43.02	43.16	49.61	47.28	47.12	57.80
.99000	28.05	28.88	35.00	37.58	38.39	44.00	44.27	44.32	52.00	48.65	48.38	58.67
.99500	30.22	30.97	40.50	40.50	41.17	48.25	47.76	47.54	57.75	52.51	51.89	63.25
.99865	33.95	34.59	43.78	45.59	45.98	56.57	53.83	53.09	62.78	59.23	57.95	66.78

COLUMN I: CALCULATIONS OF R BASED ON EQS. 28a AND 28b OF REF. 1 AND NUMERICAL INTEGRATION OF THE RAYLIEGH PROBABILITY DENSITY FUNCTION

COLUMN II: CALCULATIONS OF R BASED ON EQ. 30 OF THIS TEXT AND ASSUMING $\sigma = \sigma_v = 13.94$ m/sec, $K = C = .0221\ hr^{-1}$ AND $\Delta u = \Delta v = 0$.

SAI-2416

Table 5. Theoretical and observed modulus, R, of vector wind change with respect to time for Cape Kennedy during April (1956-70) at 12 km

τ(Hours)	12			24			36			48		
$Pr\{R \leq R^*\}$	I	II	OBSERVED	I	II	OBSERVED	I	II	OBSERVED	I	II	OBSERVED
.50	7.02	6.52	6.07	8.85	8.55	7.94	10.76	9.77	10.12	11.68	10.55	10.63
.60	8.08	7.49	7.28	10.20	9.84	9.19	12.41	11.23	11.64	13.48	12.13	12.20
.75	9.96	9.22	9.40	12.60	12.10	11.86	15.35	13.81	14.56	16.68	14.93	16.09
.80	10.75	9.93	10.33	13.60	13.04	13.00	16.58	14.88	16.04	18.01	16.08	17.77
.84134	11.52	10.62	11.38	14.57	13.94	14.39	17.78	15.91	17.55	19.33	17.20	19.32
.850	11.70	10.78	11.65	14.79	14.15	14.69	18.05	16.16	17.93	19.64	17.46	19.72
.900	12.89	12.89	13.35	16.36	15.59	16.35	19.97	17.80	20.50	21.75	19.24	22.13
.95	14.77	13.55	15.62	18.75	17.79	19.75	22.95	20.30	24.47	25.00	21.94	26.55
.97502	16.45	15.04	18.95	20.90	19.74	21.98	25.67	22.53	26.72	27.96	24.35	30.55
.97725	16.66	15.23	19.31	21.19	19.99	23.92	25.99	22.81	26.98	28.36	24.66	30.97
.98734	17.91	16.37	20.87	22.86	21.48	28.41	28.10	24.52	30.23	30.67	26.50	33.61
.99000	18.44	16.80	21.85	23.52	22.05	29.70	28.91	25.17	31.85	31.56	27.20	35.35
.99500	19.82	18.02	26.45	25.34	23.65	32.78	31.20	27.00	37.35	34.04	29.18	38.35
.99865	22.24	20.13	30.74	28.52	26.41	38.74	35.18	30.15	42.74	38.44	32.58	44.74

COLUMN 1: CALCULATIONS OF R BASED ON EQS. 28a AND 28b OF REF. 1 AND NUMERICAL INTEGRATION OF THE RAYLIEGH PROBABILITY DENSITY FUNCTION.

COLUMN II: CALCULATIONS OF R BASED ON EQ. 30 OF THIS TEXT AND ASSUMING $\sigma = \sigma_y = 7.43$ m/sec, $K = C = .0271\ hr^{-1}$ AND $\Delta u = \Delta v = 0$.

SAI-2445

Table 6. Theoretical and observed modulus, R, of vector wind change with respect to time for Cape Kennedy during July (1956-70) at 12 km

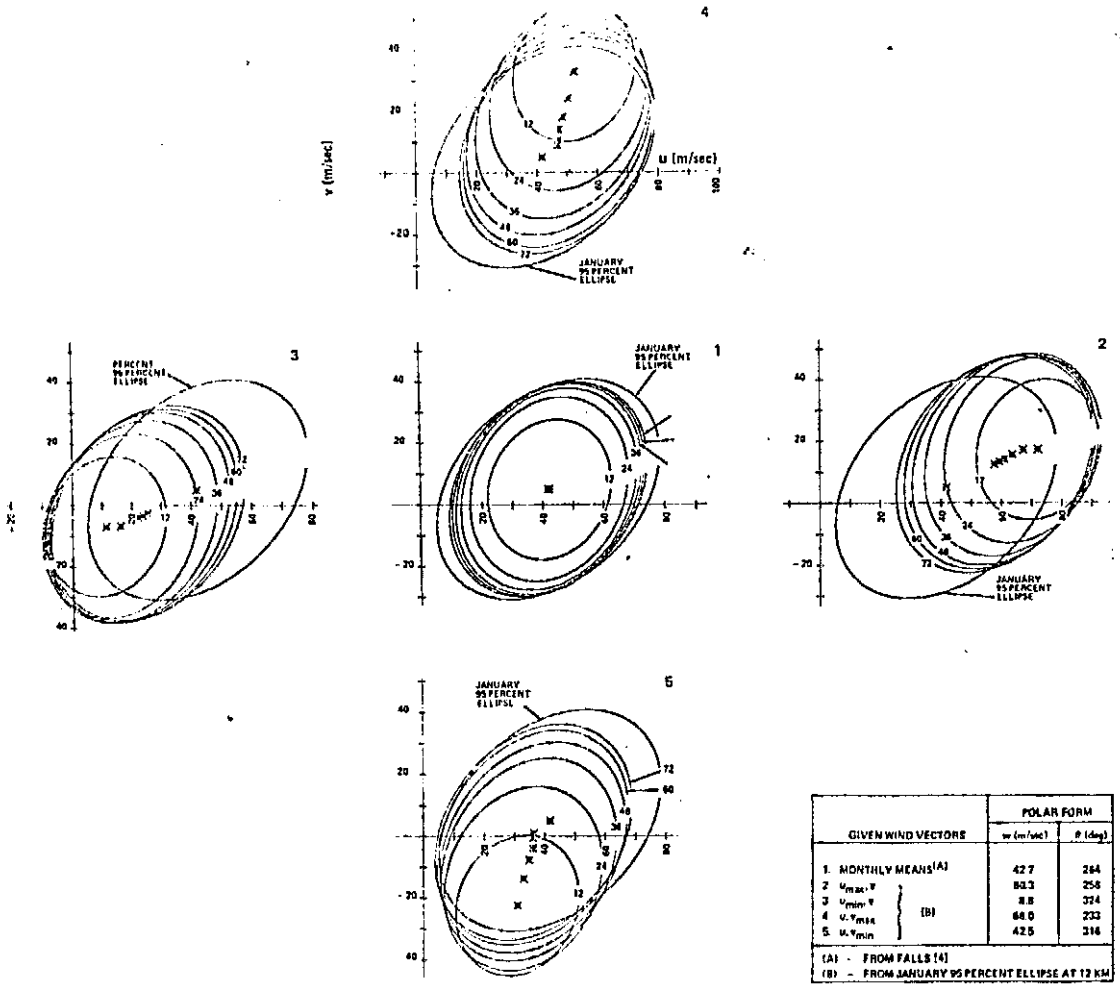
E. CONDITIONAL VECTOR WIND ELLIPSES

Prior knowledge that environmental constraints necessary to assure the success of a space vehicle launch will be satisfied implies that there is a capability for prediction of environmental parameters; the prediction can be based on knowledge of conditions prior to launch. With regard to winds aloft, prior conditions are typically based on Rawinsonde or Jimsphere wind profiles. A typical question that could be posed before launch is: Given a measurement of the wind vector 12 hours prior to launch at 12 km, will the wind vector at launch time be within the monthly 95 percent reference month wind ellipse? A question of this type can be answered if the distribution of vector wind components at an initial time, T_o, and at a future time, T_1, can be approximated by a quadravariate normal distribution. Given the components of the vector at T_o, the conditional distribution of the vector wind at T_1 is bivariate normal. Smith [1] describes the derivation of the conditional bivariate normal distribution and documents the computer program used in this investigation for calculation of these distributions. Figures 16 thru 18 illustrate the 95 percent conditional bivariate normal distributions at 12 km that have been calculated for time increments of 12, 24, 36, 48, 60 and 72 hours for the months of January, April and July; five vectors were selected as given initial conditions for calculations of the conditional ellipses. The components of the vectors are defined below:

1. Monthly component means given by Falls [4].
2. Maximum zonal wind and the corresponding meridional wind from the monthly 95 percent vector wind ellipse.
3. Minimum zonal wind and the corresponding meridional wind from the monthly 95 percent vector wind ellipse.
4. Maximum meridional wind and the corresponding zonal wind from the monthly 95 percent vector wind ellipse.
5. Minimum meridional wind and the corresponding zonal wind from the monthly 95 percent vector wind ellipse.

The conditional ellipses illustrated at the center of Figures 16 through 18 show that if the observed wind vector has components equivalent to the monthly mean components (Condition 1) then 95 percent of the wind vectors after elapsed times as large as 72 hours will fall within the monthly 95 percent ellipse. Therefore satisfaction of a launch constraint which states that the wind vector must be included within the 95 percent monthly ellipse would be assured for periods as long as 72 hours following an observation of a wind vector having components which correspond to the monthly means. The conditional ellipses based on selection of given wind vectors that terminate on the monthly 95 percent ellipse (conditions 2 through 5) have a significant proportion of their area lying outside the monthly 95 percent ellipse; as the time increment increases this proportion decreases but remains significant for a time increment as large as 72 hours. This implies that a significant proportion of wind vectors will not satisfy a launch constraint based on the 95 percent wind ellipse for periods as long as 72 hours (or longer if these calculations are extended) following an observation of a wind vector which terminates on the 95 percent ellipse.

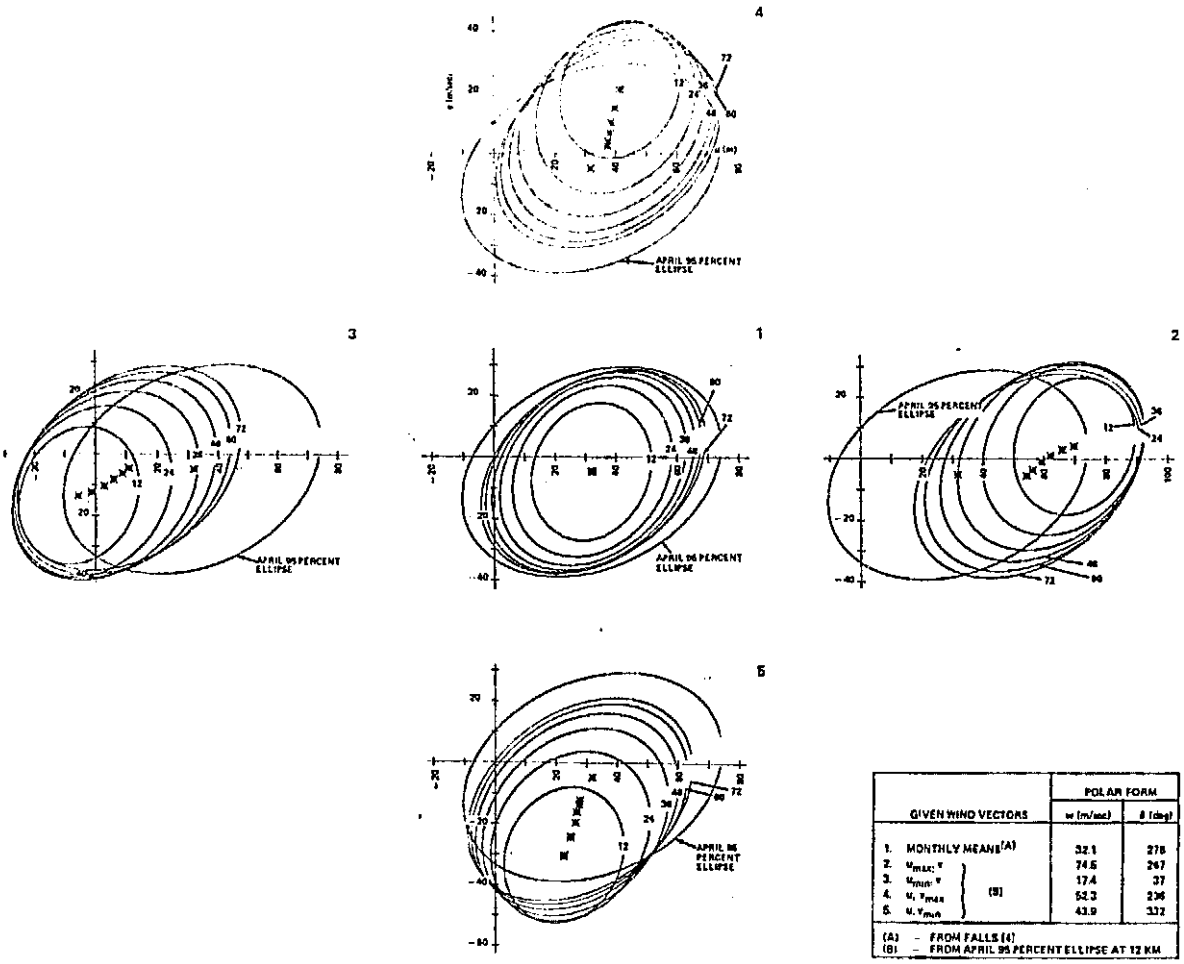
The wind direction characteristics of a wind ellipse can be described in terms of the angles associated with wind vectors constructed between the origin and the center of the ellipse (at the component means) and between the origin and the two tangent points to the ellipse. The three vectors constructed in this manner and the angles θ_A, θ_B, θ_E, $\Delta\theta_1$ and $\Delta\theta_2$ are illustrated in Figure 19; the range of wind angles, θ_R, is θ_A to θ_B. The angles θ_R, θ_E, $\Delta\theta_1$ and $\Delta\theta_2$ calculated from five 95 percent conditional ellipse for April at 6, 12, 18 and 24 km are listed in Table 7.



GIVEN WIND VECTORS		POLAR FORM	
		w (m/sec)	θ (deg)
1. MONTHLY MEANS[A]		42.7	264
2 V_{max}	(B)	80.3	256
3 V_{min}		8.8	324
4 V_{max}		66.0	233
5 V_{min}		42.5	316

(A) - FROM FALLS [4]
(B) - FROM JANUARY 95 PERCENT ELLIPSE AT 12 KM

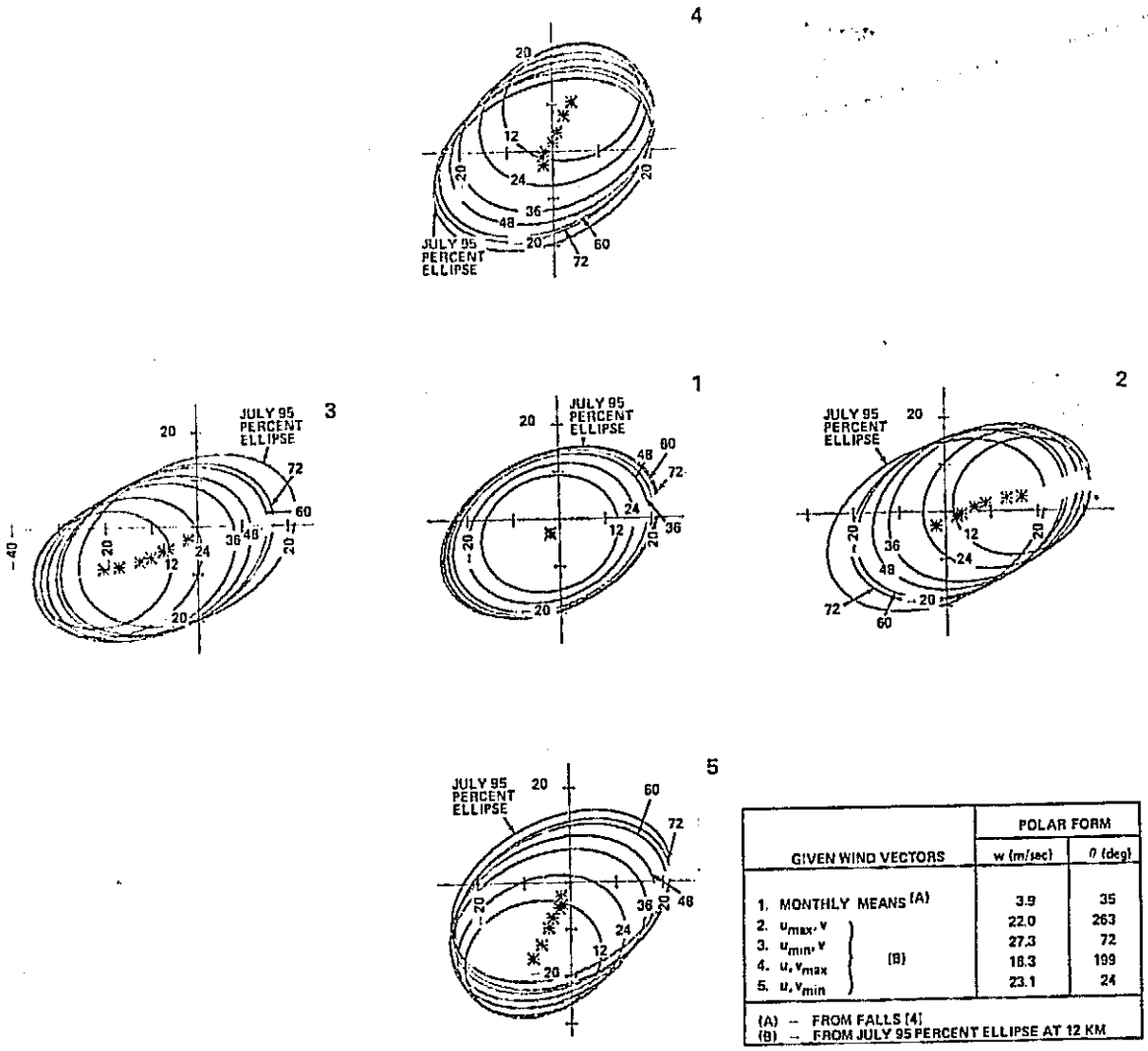
Figure 16. January conditional 95 percent wind ellipses at 12 km for time increments of 12, 24, 36, 48, 60 and 72 hours at Cape Kennedy (1956-70)



GIVEN WIND VECTORS		POLAR FORM	
		w (m/sec)	θ (deg)
1. MONTHLY MEANS[A]		32.1	278
2. u_{max}; v	(B)	74.6	267
3. u_{min}; v	(B)	17.4	37
4. u; v_{max}	(B)	52.3	236
5. u; v_{min}	(B)	43.9	332

(A) – FROM FALLS [4]
(B) – FROM APRIL 95 PERCENT ELLIPSE AT 12 KM

Figure 17. April conditional 95 percent wind ellipses at 12 km for time increments of 12, 24, 36, 48, 60 and 72 hours at Cape Kennedy (1956-70)



GIVEN WIND VECTORS		POLAR FORM	
		w (m/sec)	θ (deg)
1. MONTHLY MEANS (A)		3.9	35
2. u_{max}, v	(B)	22.0	263
3. u_{min}, v		27.3	72
4. u, v_{max}		18.3	199
5. u, v_{min}		23.1	24

(A) – FROM FALLS [4]
(B) – FROM JULY 95 PERCENT ELLIPSE AT 12 KM

Figure 18. July conditional 95 percent wind ellipses at 12 km for time increments of 12, 24, 36, 48, 60 and 72 hours at Cape Kennedy (1956-70)

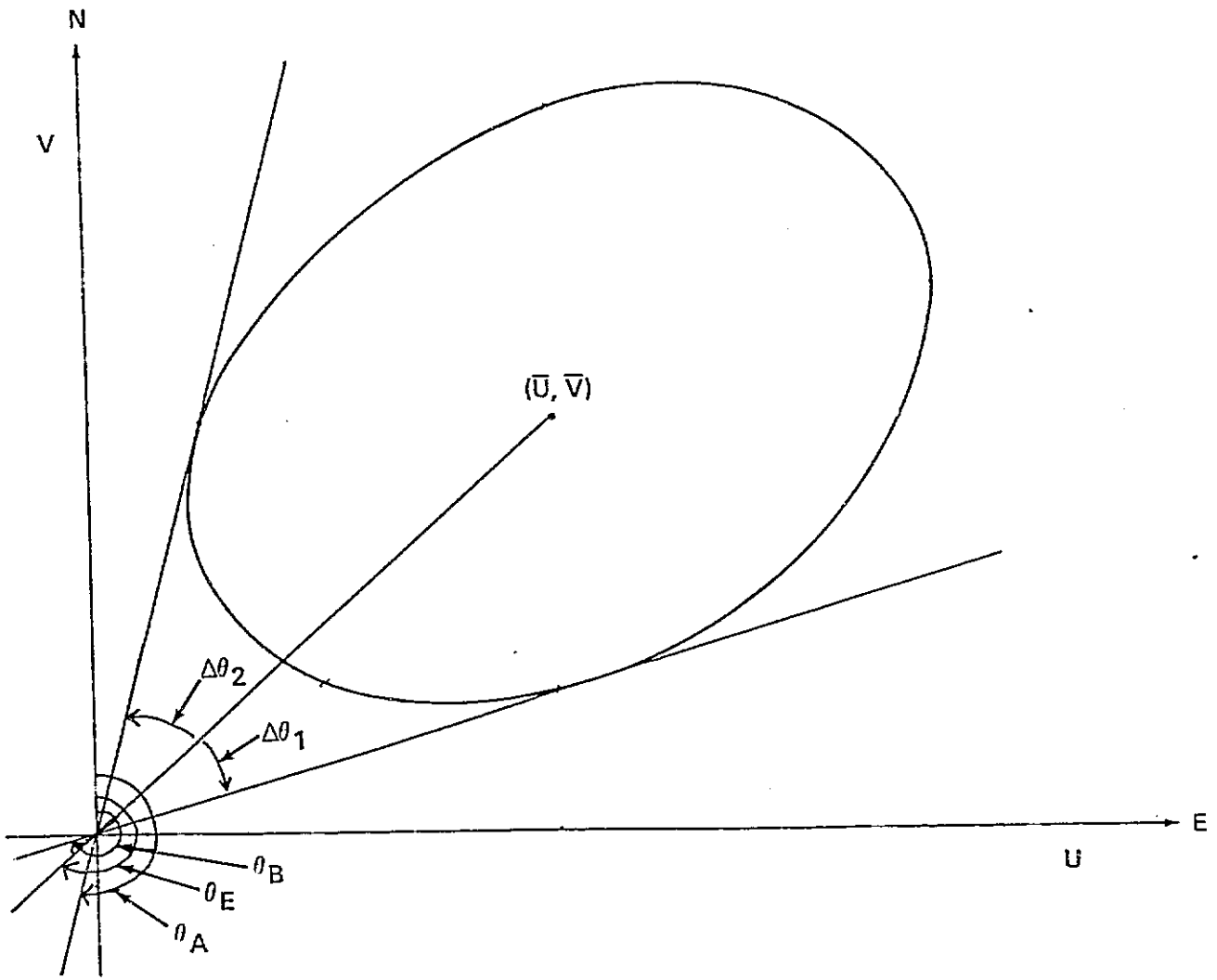


Figure 19. Wind Direction Characteristics of a Wind Probability Ellipse

Table 7. Wind Direction Characteristics of 95 Percent Conditional Wind Ellipses During April for an Elapsed Time (τ) of 12 Hours at Cape Kennedy (1956-70)

Characteristic	Altitude (KM) Condition (A)	1	6	12	18	24
θ_R (Deg)	1	*	212-351	239-322	*	*
	2	201-298	246-287	249-284	242-284	*
	3	8-148	*	*	*	42-125
	4	*	186-280	219-272	196-277	*
	5	*	276-358	286-355	283-27	*
θ_E (Deg)	1	*	277	278	*	*
	2	251	266	266	264	*
	3	79	*	*	*	84
	4	*	234	243	244	*
	5	*	316	323	326	*
$\Delta\theta_1$, $\Delta\theta_2$ (Deg, Deg)	1	*	-65,74	-39,44	*	*
	2	-50,47	-20,21	-17,20	-22,20	*
	3	-71,69	*	*	*	-42,41
	4	*	-48,46	-24,29	-48,33	*
	5	*	-49,42	-37,32	-43,61	*

(A) Condition (2-5 from April 95 percent ellipse)	(B)		m/sec	m/sec
1	$\bar{u}$	$\bar{v}$	31.73	-4.66
2	u_{max}	v	74.35	4.43
3	u_{min}	v	-10.53	-13.89
4	u	v_{max}	43.30	29.39
5	u	v_{min}	20.52	-38.85

(B) Monthly means from Falls [Ref. 4]; these vectors are expressed in polar form in the legend of Figure 17.

* 95 percent conditional ellipse covers all quadrants

F. WIND CHANGES WITH RESPECT TO TIME INCREMENTS LESS THAN SIX-HOURS

The only data suitable for an analysis of wind changes aloft at Cape Kennedy for small time increments (<6 hours) are the sequential Jimsphere wind profiles obtained during the period 1964 thru 1970 [5]. A measurement program which began in December 1976 at Cape Kennedy will provide ten soundings (six Jimsphere and four Rawinsonde) per day one day a week for a 20 week period. These data will be analyzed in Phase II of this study.

Wind changes have been calculated at 6 and 12 km over Cape Kennedy from the January, April and July Jimsphere sequential runs. The list of dates and number of soundings for each sequential set is given in Table 8. Wind changes have been calculated from these data in terms of component change (Δu, Δv) and the modulus, R, of vector change (Eq. 6) with respect to time; the calculated Δu, Δv and R as a function of time increment τ (denoted by "Delta T") are illustrated in Figures 20 and 21. The wind change data plotted in Figures 20 and 21 do not line up at exact time intervals because the Jimsphere soundings comprising the sequential sets are not equally spaced with respect to time. Therefore, calculation of wind change statistics utilizing this data set requires the use of grouped data. The means and standard deviations of component differences for January, April and July at 6 and 12 km listed in Table 9 were calculated from data grouped by 1 hour intervals of τ centered at τ = 1,2...5 hours. The statistics do not indicate a strong systematic variation as a function of τ. This is attributed to small sample size and non-uniformity of sample size as a function of time increment. Ninety-five percent confidence intervals for $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$, calculated from these sample estimates, and theoretical values calculated from Equations 24 and 25 are compared in Figures 22 and 23; it is illustrated that in most cases the theoretical values are within the 95 percent confidence band.

Table 8. January, April and July Sequential Jimsphere Runs at Cape Kennedy

Month	Date		Number of Soundings
January	13-14, 1965		11
	27, 1965		4
	21-22, 1968		7
	20-21, 1969		4
	22-23, 1970		7
		TOTAL	33
April	13, 1965		9
	27, 1965		6
	4, 1966		4
	5- 6, 1966		12
	6, 1966		4
	7- 8, 1966		14
	16-17, 1967		10
	18, 1967		8
	4, 1968		6
	11, 1970		4
		TOTAL	77
July	2, 1965		6
	29-30, 1965		6
	4- 5, 1966		5
	12-13, 1967		11
	13-14, 1967		6
	24, 1967		4
	25-26, 1968		7
	16, 1969		3
	17, 1970		4
		TOTAL	52

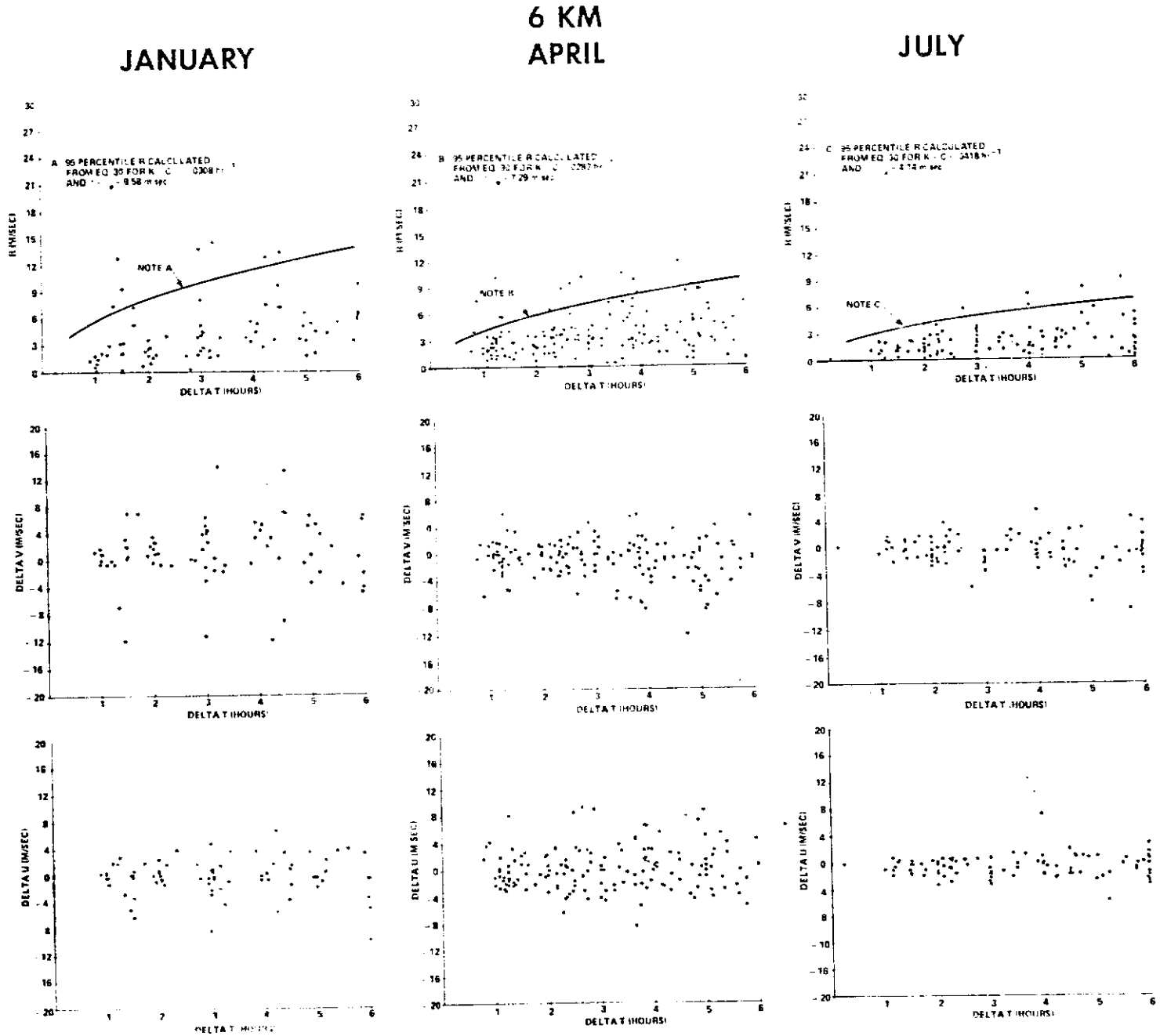


Figure 20. January, April and July Wind Component Change and Modulus of Vector Wind Change with Respect to Time at 6 km from Jimsphere Wind Profiles at Cape Kennedy

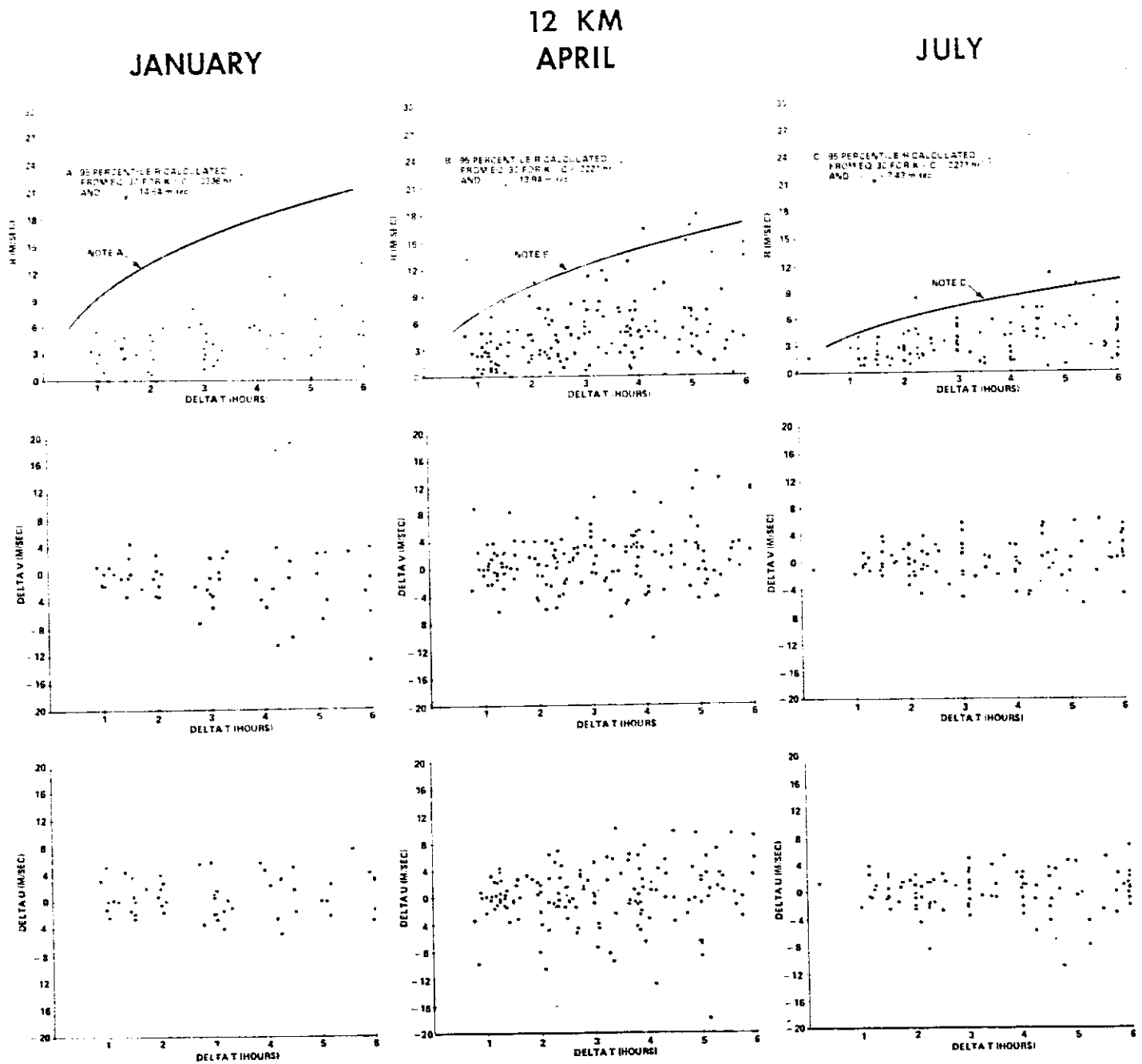


Figure 21. January, April and July Wind Component Change and Modulus of Vector Wind Change with Respect to Time at 12 km from Jimsphere Wind Profiles at Cape Kennedy

Table 9. January, April and July Bivariate Normal Statistics of Component Differences Calculated from Sequential Jimsphere Data at 6 and 12 km at Cape Kennedy

		6 km						12 km					
	τ Hours	$\overline{\Delta u}$ m/sec	$\sigma_{\Delta u}$ m/sec	$R(\Delta u, \Delta v)$	$\overline{\Delta v}$ m/sec	$\sigma_{\Delta v}$ m/sec	Sample Size	$\overline{\Delta u}$ m/sec	$\sigma_{\Delta u}$ m/sec	$R(\Delta u, \Delta v)$	$\overline{\Delta v}$ m/sec	$\sigma_{\Delta v}$ m/sec	Sample Size
	1	-.09	2.04	.75	- .84	4.08	13	1.15	2.68	.28	- .76	1.36	10
	2	.02	2.25	-.44	1.91	2.27	17	.47	1.96	-.48	- .12	2.41	12
January	3	-.40	2.91	.38	1.54	5.11	18	- .12	3.11	-.00	-1.10	3.16	13
	4	.68	3.54	.60	.29	6.03	10	2.01	4.12	.64	-2.87	4.44	7
	5	.78	1.80	-.26	3.76	4.70	12	.12	1.66	.04	-1.90	4.95	7
	1	-.19	2.54	.28	- .50	2.58	29	- .01	2.76	-.32	.22	2.73	28
	2	-.59	2.32	.05	- .41	1.68	31	.25	3.80	.33	.36	3.40	31
April	3	.60	3.79	.13	- .43	2.74	29	.10	4.55	.25	1.33	3.63	30
	4	.62	3.39	.21	- .75	3.49	31	.64	4.28	.24	1.19	4.53	31
	5	.76	3.44	.22	-2.33	3.67	26	.13	6.26	-.03	2.17	5.27	24
	1	-.61	.87	-.32	.45	.93	7	.37	2.18	.09	- .28	1.07	7
	2	-.61	1.05	.19	.04	1.59	28	- .34	2.40	-.07	.22	2.06	28
July	3	-.78	1.35	.15	-1.17	1.84	18	.96	2.51	-.20	.65	2.80	18
	4	-.13	2.26	-.12	.53	2.10	16	.61	2.77	.09	- .98	2.44	16
	5	-.65	2.03	.24	-1.60	2.77	14	-1.57	4.78	-.00	1.64	3.60	14

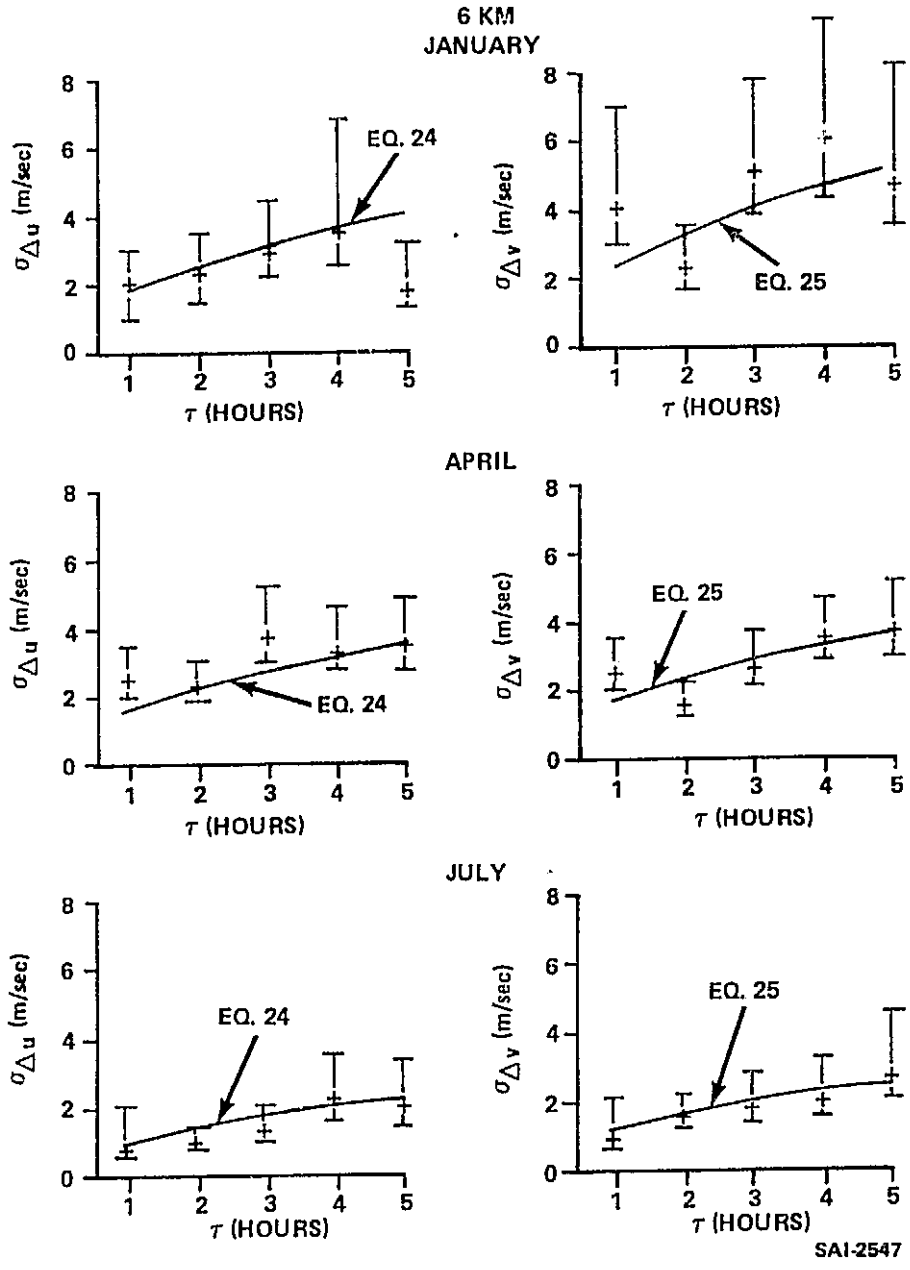


Figure 22. January, April and July 95 Percent Error Bounds of Sample Estimates of $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ at 6 km from Jimsphere Data and Theoretical Values Obtained from Equations 24 and 25

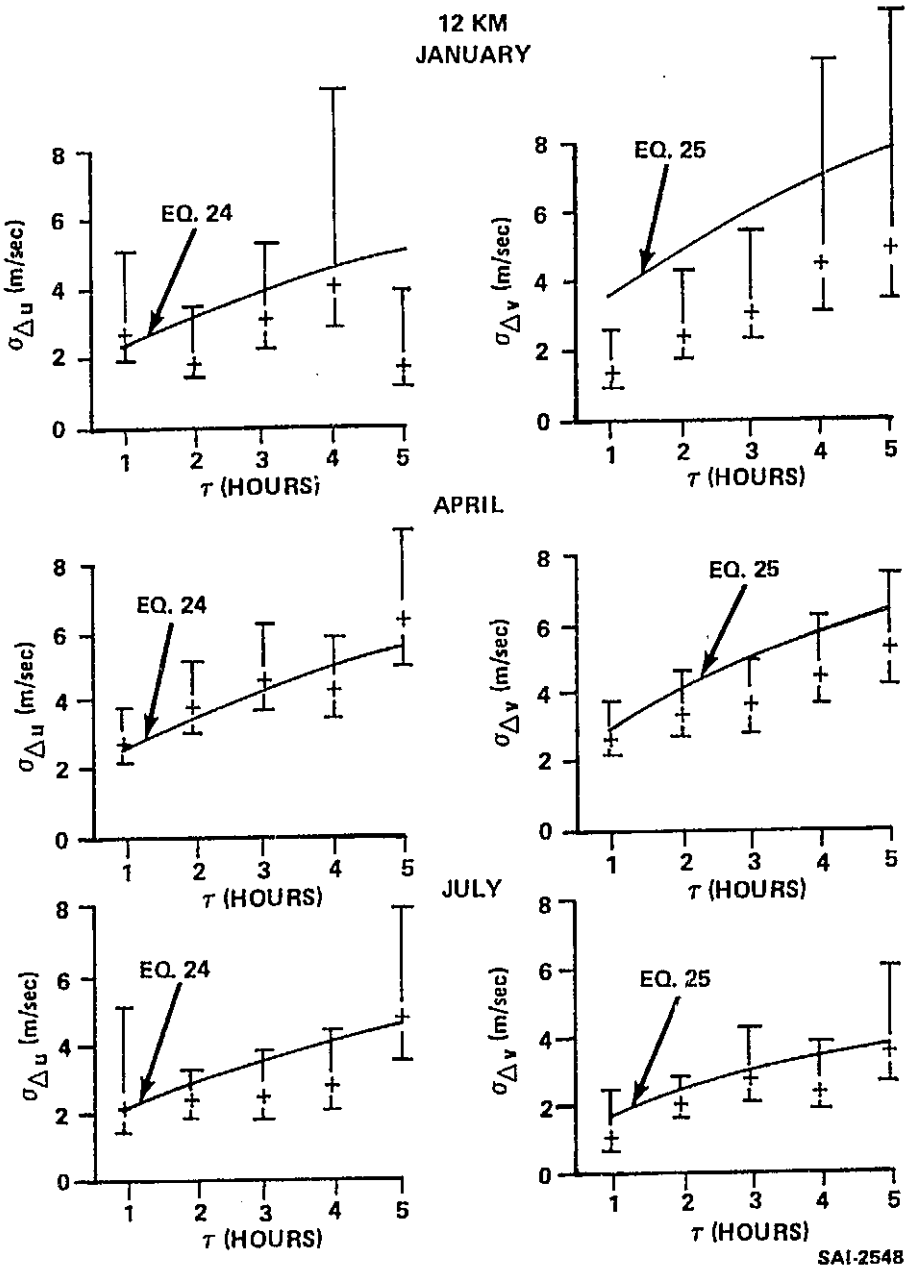


Figure 23. January, April and July 95 percent Error Bounds of Sample Estimates of $\sigma_{\Delta u}$ and $\sigma_{\Delta v}$ at 12 km from Jimsphere Data and Theoretical Values Obtained from Equations 24 and 25

G. VECTOR WIND SHEAR CHANGE WITH RESPECT TO TIME

Vector wind shear change with respect to time can be represented by a bivariate normal distribution; the five statistics of the distribution are the means, $\overline{\Delta u'}$ and $\overline{\Delta v'}$, the standard deviations, $\sigma_{\Delta u'}$ and $\sigma_{\Delta v'}$, and the correlation coefficient $R(\Delta u', \Delta v')$. Calculations of these statistics for 1 km shear at 12 km supplied by MSFC Space Sciences Laboratory, were reorganized for utilization in this study; the statistics for January, April and July are listed in Table 10. The 95 percent wind shear change ellipses derived from these bivariate normal statistics are illustrated in Figure 24. It is indicated that the 95 percentile shear change is largest in January and smallest in July; the 95 percentile wind shear change is approximately 25 percent larger in January in comparison with April. The rather close spacing of the ellipses during these months illustrates the fact that wind change is relatively independent of time increment for time increments from 12 to 72 hours; therefore, most of the 1 km wind shear change at 12 km over a 72 hour period occurs within the first twelve hours.

The January, April and July 95 percent 1 km wind shear ellipses at 12 km are also illustrated in Figure 24. It is indicated that the 95 percentile 1 km wind shear is smaller than the 95 percent 1 km wind shear change over time increments from 12 to 72 hours.

Table 10. Bivariate Normal Statistics* of 1 km Vector Wind Shear Change with Respect to Time at 12 km Over Cape Kennedy During January, April and July

			1956-67 (Period of Record)			
		$\overline{\Delta u'}$ (m/sec)	$\sigma_{\Delta u'}$ (m/sec)	R(Δu',Δv')	$\overline{\Delta v'}$ (m/sec)	$\sigma_{\Delta v'}$ (m/sec)
	12	-.01	7.86	.1584	.02	7.55
	24	-.02	8.64	.2166	.06	7.84
January	36	-.06	9.15	.2391	.06	7.93
	48	-.03	9.04	.2364	.13	7.85
	60	-.13	8.76	.1260	.08	7.67
			1956-70 (Period of Record)			
	12	-.06	5.90	-.0509	-.07	5.62
	24	-.11	6.31	-.0140	-.10	6.01
April	36	-.13	6.49	.0459	-.14	5.85
	48	-.19	6.49	-.0019	-.15	6.15
	60	-.25	6.86	-.0194	-.18	6.27
			1956-67 (Period of Record)			
	12	-.03	3.89	-.0938	-.02	3.84
	24	-.08	4.09	-.0678	.00	3.82
July	36	-.12	4.22	-.0385	.01	4.06
	48	-.15	4.14	-.0405	.01	4.18
	60	-.14	4.33	-.0333	.01	4.05

*Calculated from twice daily Rawinsonde data

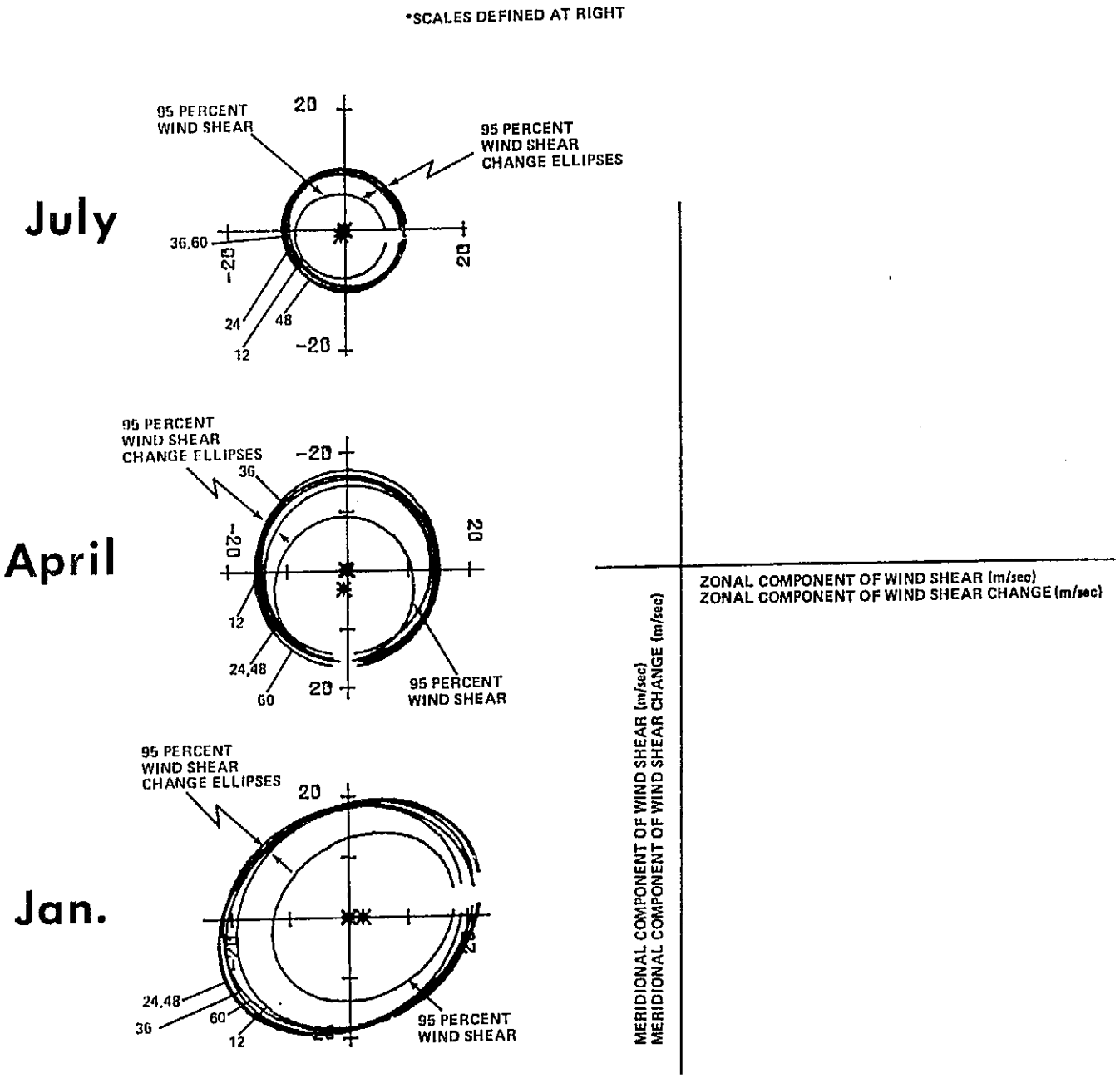


Figure 21. January, April and July 95 Percent Ellipses for 1 km Wind Shear and 1 km Wind Shear Change After 12, 24, 36, 48 and 60 Hours at 12 km at Cape Kennedy (1956-70)

IV. CONCLUSIONS, REMARKS AND RECOMMENDATIONS

The analysis presented in the preceding section for selected months and altitudes illustrates how various theoretical distribution functions can be used for calculation of wind change with respect to time at Cape Kennedy, Florida. The calculations can be made by utilization of the statistics given in the appendix for any reference month at 1 km altitude increments from 0 to 27 km.

The basic underlying assumption for the calculation of the distributions is that the joint distribution of the four variables represented by the components of the wind vector at any initial time and after a specified elapsed time is quadravariate normal. If the wind vector is specified at an initial time, then the conditional joint distribution of the wind components at a future time is bivariate normal. Since each of the variables of the quadravariate normal distribution is normal and the difference of two normal distributions is normal, it follows that wind component change is also normal and the joint distribution of zonal and meridional wind change is bivariate normal. The modulus of bivariate normally distributed variables has a Rayleigh distribution. Therefore, the modulus of vector wind change with respect to time is Rayleigh.

Sample distributions based on reference month Rawinsonde data obtained during 1956-70 agree reasonably well with the aforementioned theoretical distributions.

The standard deviation of wind component change with respect to time is the only statistic required for determination of the theoretical probability distribution (normal with zero mean) of wind component change. It has been shown that over a large range of altitudes that this statistic can be estimated from wind component standard deviation and the decay constant of the component theoretical autocorrelation function (Figures 2-4). The assumption of exponential decay of the autocorrelation function is reasonably accurate in most instances to time increments as large as 60 hours

during January, April and July. The exponential decay model is not supported by the autocorrelation data at high altitude during January and July (refer to appendix, computation set A, R(X,XP) and R(Y,YP)).

The observed modulus of vector wind change with respect to time is systemmatically larger than the predicted modulus (Section III.C.) for probabilities greater than .95. This may be attributable to inadequacy of the theory or inaccuracies of the data which affect the observed distribution at the extreme probabilities. If the theoretical distribution at extreme probabilities is to be used in engineering applications, it will be necessary to explain these systemmatic differences.

Wind change statistics calculated from Jimsphere data for small time intervals ($1 \leq \tau \leq 5$ hours) at Cape Kennedy reveal that extension of the theoretical calculation of wind component standard deviation described above to small time increments is valid at 6 and 12 km during January, April and July. A new sampling program at Cape Kennedy which began in December 1976 will provide six additional Jimsphere runs for each of 20 days during one day per week thru April 1977. These data will be used in Phase II of this study in the further analysis of wind change for small time intervals.

SAI is presently under contract (continuation of NAS8-32226) to extend this study of winds aloft temporal variability to include:

- Analysis of year to year variability
- Establishment of wind change statistics for Vandenberg AFB
- Development and application of a classification technique for identification of homogeneous winds aloft data sets
- Examination of relations between dynamic stability, wind shears and gusts at KSC.

The final report under the expanded study will be published in December 1977.

V. REFERENCES

1. Smith, O.E.: Vector Wind and Vector Wind Shear Models 0-27 km Altitude for Cape Kennedy, Florida, and Vandenberg AFB, California. NASA TMX-73319, July 1976.

2. Weil, H.: The Distribution of Radial Error. Ann. of Mathematical Statistics, Vol. 25, 1954, pp. 168-170.

3. Yadavalli, S. V.: On Applications of Some Results Related to Bivariate Gaussian Density Distribution Functions. Int. J. of Control, 1st Series, Vol. 5, No. 2, 1967, pp. 191-194.

4. Falls, L.W.: Normal Probabilities for Cape Kennedy Wind Components - Monthly Reference Periods for all Flight Azimuths - Altutudes 0 to 70 kilometers. NASA TMX-64771, April 16, 1973.

5. Johnson, D. and M. Alexander: Seventy Sequential Jimsphere Wind Profile Data Sets for ETR (Cape Kennedy) December 1964 thru July 1970. NASA ES-41, August, 1976.

APPENDIX I

This appendix contains two sets of reference month quadravariate and conditional bivariate normal statistics of variables X, Y, XP and YP, at 1 km intervals from 0 to 27 km. The statistics were calculated from 15 years (1956-70) of twice daily KSC serially complete Rawinsonde data. The notation for the variable given in Section II of this report differs from the notation established for the computer output given herein; the notations are compared in Table I-1.

TABLE I-1. NOTATION OF VARIABLES

	COMPUTATION SET			
	A		B	
Variable	Text (Sect.II)	Computer Output	Text (Sect.II)	Computer Output
X	u_0	u(at T)	u_0	u(at T)
Y	v_0	v(at T)	v_0	v(at T)
XP	u_1	u(at T+DT)	$u_1 - u_0 = \Delta u$	u(at T+DT) -u(at T)
YP	v_1	v(at T+DT)	$v_1 - v_0 = \Delta v$	v(at T+DT) -v(at T)

Table I-1 shows that the quadravariate statistics of computation set "A" are for wind components at an initial time and after a specified time increment; the statistics for set "B" are for wind components at an initial time and wind component change after a specified time increment. The reference month quadravariate normal statistics at a particular altitude for six time increments (12, 24, 36, 48, 60 and 72 hours) are listed in the lower left of each page of computer listing; the six sets of conditional bivariate normal statistics corresponding to the six time increments are listed in the lower right. The data were conditioned on monthly means given by Falls [4]. The derivation of the conditional bivariate

normal statistics for any other given vector involves recalculation of the conditional means according to equations I-1 and I-2; the standard deviations and correlation coefficients do not have to be recalculated because they are independent of the given wind vector.

$$\bar{x}_c \mid xp^* = \bar{x} + \frac{\left[(R(x,xp) - R(x,yp)\,R(xp,yp))\,(xp^* - \overline{xp})\,(\sigma_x/\sigma_{xp}) + (R(x,yp) - R(x,xp)\,R(xp,yp))\,(yp^* - \overline{yp})\,(\sigma_x/\sigma_{yp})\right]}{1 - [R(xp,yp)]^2} \qquad \text{(I-1)}$$

$$\bar{y}_c \mid yp^* = \bar{y} + \frac{\left[(R(y,xp) - R(y,yp)\,R(xp,yp))\,(xp^* - \overline{xp})\,(\sigma_y/\sigma_{xp}) + (R(y,yp) - R(y,xp)\,R(xp,yp))\,(yp^* - \overline{yp})\,(\sigma_y/\sigma_{yp})\right]}{1 - [R(xp,yp)]^2} \qquad \text{(I-2)}$$

where, $\bar{x}_c$ and $\bar{y}_c$ are the mean components of the conditional distribution,

xp^* and yp^* are the components of the given vector and

σ_x, σ_y, σ_{xp} and σ_{yp} are equivalent to S.D.x, S.D.y, S.D. xp and S.D.yp respectively given in the computer listings.

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.66	2.90	-.2412	-.95	3.30	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.68	2.89	.5016	-.97	3.29	.4877	-.2343	.1026	-.3367
24	.69	2.89	.3277	-.97	3.30	.1979	-.2325	.1969	-.2958
36	.67	2.91	.1496	-.94	3.32	.0193	-.2383	.1933	-.1828
48	.67	2.91	.1461	-.92	3.32	-.0474	-.2359	.0941	-.0725
60	.67	2.91	.0563	-.91	3.30	-.0355	-.2413	.0545	.0234
72	.66	2.92	.0914	-.89	3.30	-.0025	-.2548	.0024	-.0028

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.74	-.90

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.67	2.42	-.2468	-.89	2.78
24	.66	2.66	-.2865	-.92	3.13
36	.66	2.83	-.2718	-.93	3.23
48	.67	2.87	-.2602	-.94	3.28
60	.67	2.89	-.2444	-.94	3.29
72	.67	2.89	-.2424	-.95	3.30

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.73	7.02	.0092	.74	6.31	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	2.74	7.01	.6772	.70	6.28	.5723	.0132	.3494	-.3261
24	2.70	7.03	.3455	.66	6.23	.2402	.0135	.3742	-.3485
36	2.69	7.08	.1205	.67	6.25	.0053	.0002	.2575	-.2474
48	2.68	7.12	.0593	.73	6.29	-.0729	-.0038	.1038	-.0943
60	2.72	7.15	.0637	.76	6.27	-.0468	-.0112	.0223	-.0147
72	2.72	7.14	.0774	.81	6.29	.0086	-.0185	-.0200	-.0106

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.03	.91

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.85	4.60	-.0762	.95	4.70
2.74	6.10	-.0475	.91	5.66
2.70	6.74	-.0244	.82	6.09
2.73	6.98	-.0038	.76	6.26
2.74	7.00	.0071	.74	6.30
2.75	7.00	.0108	.74	6.30

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.03	7.06	.0462	1.10	6.40	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.05	7.06	.6979	1.04	6.38	.6266	.0444	.2904	-.2430
24	7.02	7.10	.4266	1.02	6.36	.3346	.0355	.3379	-.2869
36	7.01	7.16	.2279	1.02	6.37	.1286	.0258	.2525	-.2118
48	7.03	7.18	.1592	1.05	6.39	.0251	.0236	.1253	-.1061
60	7.06	7.22	.1695	1.07	6.37	.0319	.0095	.0424	-.0659
72	7.09	7.26	.1583	1.12	6.37	.0696	.0025	.0028	-.0715

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.37	1.23

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.20	4.67	.0248	1.30	4.69
7.11	6.02	-.0005	1.28	5.66
7.06	6.70	.0167	1.21	6.14
7.06	6.92	.0294	1.15	6.35
7.07	6.94	.0419	1.12	6.39
7.07	6.95	.0517	1.11	6.38

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.75	7.37	.0949	1.30	7.21	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	10.78	7.38	.7318	1.23	7.19	.6605	.0970	.2787	-.1391
24	10.77	7.43	.5075	1.21	7.16	.3887	.0955	.3125	-.1749
36	10.74	7.52	.3421	1.18	7.15	.2134	.0856	.2346	-.1435
48	10.75	7.58	.2963	1.18	7.17	.1147	.0820	.1076	-.0791
60	10.77	7.63	.2769	1.16	7.19	.1081	.0719	.0460	-.0440
72	10.80	7.68	.2688	1.18	7.19	.1192	.0604	.0316	-.0352

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.12	1.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.96	4.78	.0542	1.53	5.18
10.88	6.13	.0235	1.49	6.33
10.83	6.80	.0548	1.44	6.86
10.83	7.00	.0788	1.37	7.12
10.83	7.06	.0933	1.35	7.16
10.82	7.09	.0968	1.34	7.15

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14.36	8.10	.1485	1.72	7.91	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	14.37	8.11	.7510	1.62	7.88	.6640	.1504	.3069	-.0718
24	14.35	8.14	.5730	1.61	7.87	.4041	.1530	.3010	-.1093
36	14.36	8.23	.4230	1.57	7.83	.2457	.1467	.2349	-.0902
48	14.38	8.31	.3596	1.57	7.81	.1627	.1384	.1674	-.0585
60	14.41	8.38	.3103	1.59	7.80	.1338	.1282	.1235	-.0225
72	14.43	8.45	.2817	1.59	7.85	.1379	.1150	.0921	.0075

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.64	1.86

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.53	5.13	.0767	1.93	5.68
14.49	6.44	.0689	1.88	6.98
14.44	7.23	.0969	1.84	7.50
14.43	7.51	.1148	1.80	7.72
14.42	7.68	.1259	1.78	7.79
14.41	7.77	.1328	1.77	7.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.02	9.08	.2007	2.15	8.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	18.03	9.09	.7629	2.05	8.70	.6693	.2011	.3217	.0014
24	17.99	9.11	.6027	2.03	8.66	.4076	.2019	.3112	-.0417
36	17.98	9.16	.4784	1.97	8.61	.2528	.1953	.2536	-.0437
48	18.00	9.25	.3968	1.94	8.59	.1617	.1827	.1882	-.0534
60	18.05	9.31	.3395	1.94	8.57	.1367	.1735	.1608	-.0259
72	18.08	9.42	.2940	1.94	8.64	.1228	.1572	.1158	.0047

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.31	2.26

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
18.21	5.70	.1131	2.34	6.26
18.18	7.09	.1043	2.31	7.70
18.14	7.87	.1323	2.28	8.24
18.10	8.25	.1612	2.24	8.49
18.08	8.51	.1694	2.22	8.56
18.07	8.67	.1814	2.21	8.61

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
21.68	9.80	.2295	2.80	9.58	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
22.07	2.89

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	21.71	9.78	.7738	2.68	9.57	.6742	2274	.3255	.0551	21.94	6.09	.1215	3.00	6.87
24	21.66	9.78	.6276	2.64	9.49	.4182	.2046	.2970	.0156	21.91	7.52	.1319	2.98	8.47
36	21.65	9.84	.4922	2.58	9.42	.2706	.2200	.2506	-.0135	21.85	8.44	.1648	2.95	9.03
48	21.67	9.98	.4037	2.53	9.36	.1743	.2116	.2082	-.0073	21.81	8.91	.1793	2.92	9.29
60	21.73	10.00	.3579	2.52	9.30	.1557	.2069	.1740	.0368	21.78	9.14	.1886	2.89	9.36
72	21.80	10.11	.3023	2.53	9.32	.1512	.1983	.1320	.0468	21.75	9.34	.2042	2.87	9.42

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
25.23	10.93	.2790	3.42	10.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	25.28	10.92	.7978	3.28	10.63	.6768	.2767	.3495	.1300
24	25.24	10.93	.6530	3.20	10.54	.4011	.2720	.3203	.0725
36	25.23	10.96	.5185	3.12	10.43	.2720	.2707	.2855	.0558
48	25.28	11.12	.4389	3.06	10.37	.1877	.2633	.2457	.0633
60	25.35	11.21	.3801	3.06	10.28	.1656	.2528	.2408	.0678
72	25.44	11.30	.3174	3.07	10.26	.1350	.2535	.1967	.0535

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.72	3.50

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
25.57	6.51	.1340	3.63	7.64
25.53	8.19	.1582	3.63	9.49
25.46	9.30	.1866	3.61	9.99
25.40	9.80	.2066	3.57	10.25
25.36	10.10	.2137	3.54	10.29
25.31	10.36	.2366	3.50	10.42

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
28.68	11.95	.3017	3.75	11.74	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	28.77	11.93	.7867	3.60	11.70	.6815	.3020	.3616	.1698
24	28.75	11.95	.6356	3.52	11.62	.4078	.2949	.3250	.1125
36	28.77	12.03	.5141	3.43	11.55	.2555	.2967	.2908	.0922
48	28.81	12.18	.4356	3.36	11.45	.1765	.2893	.2492	.0781
60	28.91	12.35	.3756	3.38	11.38	.1576	.2815	.2403	.0839
72	28.98	12.49	.3077	3.40	11.37	.1443	.2771	.2026	.0873

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.26	3.84

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
29.06	7.33	.1371	3.98	8.37
28.99	9.18	.1771	3.97	10.42
28.91	10.22	.2032	3.94	11.03
28.85	10.74	.2297	3.90	11.29
28.80	11.07	.2386	3.87	11.34
28.76	11.37	.2578	3.84	11.44

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
32.14	13.29	.3108	4.17	12.79	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	32.23	13.25	.8095	4.03	12.78	.6854	.3102	.3403	.2189
24	32.24	13.29	.6699	3.97	12.66	.4110	.3076	.3110	.1609
36	32.24	13.41	.5579	3.86	12.60	.2733	.3079	.2881	.1357
48	32.31	13.56	.4668	3.77	12.49	.2102	.2993	.2573	.1132
60	32.42	13.73	.4131	3.79	12.41	.1713	.2915	.2343	.1141
72	32.54	13.88	.3575	3.78	12.39	.1476	.2917	.1977	.1149

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
32.71	4.17

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	32.53	7.79	.1335	4.33	9.16
24	32.45	9.84	.1792	4.33	11.40
36	32.39	11.01	.2026	4.33	12.00
48	32.31	11.74	.2302	4.31	12.23
60	32.25	12.10	.2441	4.27	12.36
72	32.20	12.41	.2624	4.24	12.48

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
35.84	14.70	.3552	4.56	13.62	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	35.93	14.67	.8181	4.48	13.61	.7078	.3528	.3586	.2856
24	35.90	14.68	.6678	4.39	13.52	.4482	.3506	.3364	.2159
36	35.86	14.77	.5641	4.23	13.43	.3012	.3490	.2933	.1691
48	35.91	14.87	.4900	4.15	13.29	.2212	.3410	.2573	.1362
60	36.01	14.96	.4423	4.17	13.20	.1749	.3333	.2333	.1405
72	36.15	15.02	.3895	4.19	13.18	.1490	.3347	.2124	.1332

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
36.41	4.65

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
36.24	8.45	.1593	4.83	9.49
36.18	10.94	.2115	4.85	11.89
36.14	12.13	.2548	4.86	12.70
36.07	12.80	.2807	4.83	13.02
36.01	13.18	.2915	4.78	13.17
35.94	13.54	.3035	4.74	13.26

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
39.39	15.56	.3474	4.86	14.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	39.46	15.56	.8308	4.63	14.67	.7340	.3474	.3437	.2890
24	39.46	15.59	.6798	4.53	14.60	..4923	.3441	.3262	.2242
36	39.46	15.70	.5879	4.36	14.50	.3327	.3365	.2938	.1692
48	39.54	15.79	.5223	4.27	14.35	.2383	.3320	.2497	.1295
60	39.63	15.89	.4647	4.28	14.25	.1702	.3269	.2230	.1274
72	39.77	15.92	.4196	4.30	14.21	.1318	.3335	.1939	.1184

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
39.98	4.63

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
39.83	8.66	.1646	4.91	9.87
39.75	11.41	.2073	4.99	12.53
39.68	12.58	.2443	5.03	13.54
39.61	13.25	.2765	5.00	14.00
39.54	13.78	.2873	4.96	14.22
39.47	14.12	.3015	4.92	14.35

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
41.80	14.97	.3410	5.08	14.64	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	41.87	14.99	.8314	4.89	14.60	.7691	.3436	.3387	.2991
24	41.89	15.07	.7009	4.78	14.52	.5257	.3392	.3313	.2398
36	41.91	15.21	.6090	4.63	14.44	.3530	.3302	.2914	.1860
48	42.03	15.40	.5465	4.54	14.40	.2433	.3243	.2518	.1492
60	42.13	15.51	.5042	4.50	14.32	.1499	.3173	.2372	.1453
72	42.26	15.53	.4595	4.51	14.29	.1045	.3202	.2154	.1395

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
42.39	4.71

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
42.23	8.32	.1406	4.99	9.29
42.15	10.68	.1810	5.13	12.23
42.09	11.87	.2308	5.19	13.43
41.99	12.53	.2614	5.18	13.95
41.93	12.93	.2663	5.15	14.18
41.86	13.30	.2796	5.11	14.29

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
42.03	13.53	.3206	4.86	12.79	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	42.14	13.55	.8128	4.74	12.74	.7836	.3200	.3371	.2759
24	42.18	13.61	.6687	4.65	12.62	.5575	.3176	.3206	.2075
36	42.19	13.75	.5638	4.55	12.55	.3790	.3166	.2819	.1520
48	42.29	13.98	.5096	4.50	12.48	.2683	.3194	.2591	.1342
60	42.43	14.15	.4788	4.51	12.41	.1946	.3215	.2297	.1256
72	42.57	14.31	.4484	4.53	12.41	.1549	.3270	.2204	.1140

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
42.63	4.59

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
42.42	7.88	.0968	4.79	7.86
42.33	10.06	.1791	4.90	10.44
42.28	11.17	.2266	4.95	11.64
42.20	11.64	.2391	4.94	12.10
42.12	11.87	.2532	4.91	12.34
42.06	12.09	.2590	4.88	12.43

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
39.89	12.30	.3140	4.27	10.86	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (YP,YP)	R (XP,Y)	R (YP,X)
12	39.92	12.27	.7846	4.19	10.82	.8066	.3179	.3350	.2496
24	39.95	12.26	.6393	4.13	10.67	.6174	.3200	.3119	.1958
36	40.00	12.27	.5288	4.09	10.56	.4477	.3219	.2625	.1556
48	40.10	12.46	.4589	4.04	10.49	.3176	.3229	.2178	.1312
60	40.28	12.59	.4118	4.07	10.46	.2387	.3255	.1827	.1001
72	40.39	12.75	.3812	4.10	10.44	.1978	.3296	.1682	.0864

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.56	3.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
40.39	7.63	.1408	4.14	6.35
40.29	9.46	.2003	4.24	8.44
40.19	10.44	.2411	4.28	9.61
40.10	10.92	.2619	4.30	10.21
40.01	11.20	.2796	4.28	10.47
39.96	11.36	.2847	4.26	10.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
35.69	10.67	.2985	4.04	9.81	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
36.28	3.79

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	35.75	10.64	.7547	4.00	9.76	.7687	.2981	.3339	.2270	36.09	7.00	.1089	3.94	6.18
24	35.79	10.64	.6052	3.94	9.66	.6025	.3011	.3326	.1765	35.99	8.49	.1611	4.03	7.67
36	35.83	10.68	.5094	3.88	9.57	.4484	.3002	.2704	.1313	35.93	9.18	.2232	4.07	8.66
48	35.89	10.77	.4206	3.83	9.48	.3236	.2929	.2012	.1007	35.85	9.68	.2586	4.07	9.22
60	36.00	10.86	.3631	3.82	9.48	.2281	.2925	.1500	.0595	35.80	9.93	.2808	4.06	9.51
72	36.11	10.96	.3425	3.82	9.47	.1822	.2946	.1501	.0455	35.75	10.01	.2785	4.05	9.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
30.67	9.25	.2726	3.56	8.47	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	30.70	9.22	.7000	3.51	8.43	.7564	.2690	.3367	.1646
24	30.73	9.19	.5935	3.44	8.34	.5962	.2724	.3454	.1246
36	30.77	9.22	.4856	3.41	8.25	.4434	.2714	.2932	.0833
48	30.84	9.30	.4066	3.38	8.20	.3160	.2699	.2468	.0515
60	30.96	9.36	.3250	3.37	8.19	.2017	.2686	.1846	.0455
72	31.07	9.41	.3064	3.33	8.18	.1618	.2680	.1614	.0305

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
31.11	3.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
30.96	6.60	.1182	3.56	5.42
30.90	7.43	.1398	3.62	6.61
30.84	8.07	.1948	3.63	7.44
30.77	8.43	.2207	3.62	7.91
30.71	8.74	.2394	3.59	8.22
30.67	8.79	.2468	3.58	8.30

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
24.73	8.44	.2632	2.57	7.34	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	24.74	8.43	.6895	2.52	7.28	.7363	.2577	.3350	.1348
24	24.78	8.40	.5556	2.47	7.19	.5893	.2555	.3473	.0919
36	24.84	8.43	.4545	2.45	7.10	.4266	.2549	.3104	.0601
48	24.90	8.50	.3585	2.44	7.05	.2875	.2487	.2840	.0663
60	25.03	8.53	.3479	2.45	7.04	.1930	.2409	.2439	.0508
72	25.15	8.54	.2781	2.43	7.03	.1420	.2403	.2136	.0468

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.25	2.56

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
25.08	6.10	.1303	2.67	4.84
24.99	7.00	.1495	2.71	5.74
24.91	7.50	.1826	2.69	6.46
24.85	7.88	.1916	2.67	6.84
24.80	7.91	.2035	2.63	7.04
24.75	8.10	.2203	2.60	7.14

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/50 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.31	7.79	.2965	1.82	5.82	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.75	1.89

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	18.32	7.77	.6405	1.79	5.80	.7083	.2939	.3183	.1554	18.58	5.98	.2146	1.93	4.06
24	18.35	7.78	.5526	1.76	5.75	.5652	.2955	.3520	.0782	18.53	6.46	.2181	1.95	4.67
36	18.44	7.79	.4264	1.76	5.67	.4007	.2975	.3315	.0276	18.44	7.00	.2355	1.92	5.18
48	18.50	7.81	.3440	1.74	5.63	.2660	.2993	.3008	.0300	18.39	7.29	.2365	1.90	5.45
60	18.62	7.85	.2628	1.77	5.62	.1441	.2878	.2577	.0054	18.34	7.50	.2526	1.96	5.61
72	18.73	7.93	.2262	1.75	5.64	.0871	.2836	.2120	.0178	18.31	7.58	.2629	1.83	5.69

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
12.73	7.35	.2669	1.07	4.55	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	12.74	7.35	.5798	1.06	4.57	.6592	.2619	.2676	.0771
24	12.79	7.32	.4645	1.06	4.53	.5400	.2588	.2620	.0084
36	12.84	7.30	.3922	1.04	4.50	.3721	.2521	.2782	-.0310
48	12.89	7.28	.3022	1.05	4.47	.2307	.2475	.2477	-.0094
60	12.96	7.31	.2692	1.04	4.47	.1440	.2476	.2322	-.0111
72	13.03	7.36	.2211	1.02	4.48	.0756	.2452	.2086	.0005

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
13.02	1.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.87	5.96	.2631	1.21	3.39
12.81	6.45	.2762	1.19	3.79
12.76	6.69	.2416	1.16	4.13
12.74	6.97	.2291	1.12	4.34
12.72	7.05	.2276	1.10	4.41
12.71	7.15	.2334	1.07	4.45

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.73	6.82	.2940	.55	3.84	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	8.73	6.81	.6155	.55	3.84	.5382	.2922	.2642	.1258
24	8.78	6.77	.5032	.56	3.81	.5057	.2821	.2460	.0883
36	8.82	6.75	.4323	.56	3.78	.3549	.2771	.2532	.0457
48	8.88	6.71	.3665	.56	3.78	.2869	.2721	.2379	.0405
60	8.92	6.71	.3365	.54	3.78	.1638	.2669	.1965	.0288
72	8.98	6.73	.3030	.53	3.79	.1254	.2630	.1799	.0518

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.70	.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.69	5.36	.2416	.61	3.21
8.68	5.88	.2650	.59	3.29
8.66	6.13	.2507	.57	3.54
8.65	6.33	.2524	.56	3.63
8.64	6.41	.2571	.54	3.74
8.63	6.50	.2590	.54	3.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.45	7.06	.2309	.23	3.61	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	6.45	7.06	.5898	.26	3.61	.3903	.2304	.1935	.1443
24	6.47	7.02	.5460	.24	3.61	.3646	.2221	.1793	.1166
36	6.52	7.03	.4787	.25	3.64	.2403	.2281	.2396	.0295
48	6.58	7.01	.4299	.25	3.67	.2199	.2249	.1828	.0650
60	6.60	7.04	.4222	.28	3.66	.0865	.2193	.1632	.0362
72	6.62	7.09	.3441	.25	3.67	.0728	.2196	.1311	.0127

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.25	.35

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	6.34	5.70	.1539	.25	3.31
24	6.33	5.91	.1736	.26	3.35
36	6.30	6.17	.1584	.22	3.44
48	6.30	6.37	.1816	.22	3.49
60	6.29	6.39	.1851	.21	3.56
72	6.31	6.61	.2034	.21	3.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.32	7.75	.2506	.29	3.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.33	7.75	.6638	.32	3.71	.4061	.2493	.2245	.1436
24	5.33	7.76	.5790	.31	3.71	.4402	.2483	.1840	.1583
36	5.36	7.75	.5498	.32	3.72	.2050	.2439	.1650	.1732
48	5.37	7.78	.5410	.31	3.73	.2664	.2429	.1527	.0967
60	5.41	7.78	.4666	.31	3.76	.1230	.2389	.1293	.0746
72	5.43	7.78	.4072	.30	3.77	.1704	.2386	.1154	.0445

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.97	.51

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.07	5.79	.1622	.34	3.36
5.12	6.32	.1891	.36	3.33
5.13	6.47	.1887	.30	3.61
5.09	6.51	.2190	.32	3.56
5.10	6.85	.2222	.29	3.67
5.10	7.07	.2362	.31	3.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.93	8.30	.2469	.54	3.95	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.88	8.28	.7601	.57	3.94	.4717	.2393	.1938	.2246
24	4.85	8.27	.7067	.59	3.92	.4602	.2367	.1769	.1938
36	4.88	8.28	.6726	.63	3.91	.3273	.2338	.1774	.1339
48	4.87	8.26	.6358	.63	3.90	.2934	.2201	.1387	.1332
60	4.94	8.26	.5634	.65	3.90	.1194	.2173	.0876	.1101
72	4.99	8.26	.5144	.65	3.90	.1407	.2114	.0678	.0866

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.29	.85

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.51	5.38	.1411	.65	3.46
4.55	5.87	.1760	.64	3.49
4.52	6.14	.1938	.58	3.71
4.55	6.41	.2183	.58	3.76
4.55	6.86	.2429	.54	3.91
4.55	7.12	.2534	.56	3.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.18	9.13	.2076	.64	3.88	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.12	9.12	.8095	.66	3.87	.4481	.2055	.1530	.1258
24	5.06	9.11	.7570	.67	3.88	.4445	.2036	.1242	.1450
36	5.08	9.10	.6982	.71	3.93	.2800	.1950	.1079	.1099
48	5.07	9.07	.6551	.74	3.96	.2910	.1867	.0752	.0779
60	5.12	9.06	.5991	.75	3.96	.1666	.1880	.0418	.0309
72	5.14	9.04	.5508	.76	3.96	.1886	.1768	.0510	.0598

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.35	1.00

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.51	5.35	.1941	.77	3.46
4.63	5.96	.2010	.77	3.47
4.64	6.53	.2033	.70	3.72
4.67	6.88	.2372	.70	3.71
4.65	7.27	.2496	.67	3.82
4.70	7.55	.2295	.67	3.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.23	9.64	.1660	.81	4.17	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	6.20	9.66	.8265	.81	4.16	.5213	.1674	.1397	.1256
24	6.18	9.65	.8071	.82	4.16	.4876	.1687	.1087	.1297
36	6.15	9.66	.7329	.81	4.16	.3564	.1695	.1107	.1168
48	6.15	9.64	.7019	.79	4.15	.3397	.1810	.0513	.1021
60	6.17	9.63	.6316	.78	4.16	.2039	.1839	.0210	.0877
72	6.18	9.58	.5932	.76	4.16	.1979	.1819	-.0186	.0570

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.43	1.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.58	5.43	.1191	.98	3.55
5.62	5.69	.1580	.98	3.64
5.70	6.56	.1378	.92	3.89
5.69	6.86	.2069	.95	3.92
5.73	7.47	.2092	.90	4.08
5.72	7.74	.2387	.92	4.08

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.60	11.16	.1782	1.04	4.60	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.53	11.19	.8496	1.04	4.61	.5275	.1742	.1144	.1533
24	7.46	11.23	.7876	1.00	4.60	.5021	.1741	.0682	.1470
36	7.42	11.18	.7249	1.01	4.63	.3286	.1667	.0436	.1407
48	7.40	11.13	.6981	1.02	4.62	.3660	.1702	.0235	.1072
60	7.40	11.12	.6437	1.02	4.62	.2044	.1729	-.0257	.0908
72	7.40	11.09	.5930	1.01	4.63	.2302	.1730	-.0521	.1028

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.87	1.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.05	5.89	.1748	1.24	3.91
7.15	6.88	.2244	1.26	3.98
7.22	7.68	.2154	1.18	4.34
7.22	7.99	.2496	1.20	4.28
7.24	8.54	.2665	1.14	4.49
7.29	8.99	.2680	1.16	4.45

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.20	12.53	.1350	1.56	5.28	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	8.14	12.54	.8735	1.55	5.29	.5918	.1282	.0802	.1110
24	8.06	12.60	.8142	1.48	5.18	.5117	.1239	.0275	.1126
36	8.06	12.53	.7628	1.48	5.18	.3843	.1186	-.0009	.0998
48	8.01	12.52	.7175	1.50	5.17	.3559	.1213	-.0436	.0638
60	7.97	12.54	.6654	1.47	5.18	.2412	.1286	-.0973	.0517
72	8.01	12.51	.6205	1.45	5.23	.1992	.1252	-.1173	.0583

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.40	2.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.56	6.10	.1669	1.86	4.25
7.69	7.27	.2139	1.88	4.53
7.72	8.10	.2215	1.81	4.87
7.73	8.72	.2699	1.79	4.91
7.77	9.35	.2907	1.75	5.08
7.79	9.82	.2790	1.73	5.12

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1	1/56 - 12/70	0	90.0	.66	2.90	-.2412	-.95	3.30	930
1	1/56 - 12/70	1	90.0	2.73	7.02	.0092	.74	6.31	930
1	1/56 - 12/70	2	90.0	7.03	7.06	.0462	1.10	6.40	930
1	1/56 - 12/70	3	90.0	10.75	7.37	.0949	1.30	7.21	930
1	1/56 - 12/70	4	90.0	14.36	8.10	.1485	1.72	7.91	930
1	1/56 - 12/70	5	90.0	18.02	9.08	.2037	2.15	8.72	930
1	1/56 - 12/70	6	90.0	21.68	9.80	.2295	2.80	9.59	930
1	1/56 - 12/70	7	90.0	25.23	10.93	.2790	3.42	10.67	930
1	1/56 - 12/70	8	90.0	28.68	11.95	.3017	3.75	11.74	930
1	1/56 - 12/70	9	90.0	32.14	13.29	.3108	4.17	12.79	930
1	1/56 - 12/70	10	90.0	35.84	14.70	.3552	4.66	13.62	930
1	1/56 - 12/70	11	90.0	39.39	15.56	.3474	4.86	14.67	930
1	1/56 - 12/70	12	90.0	41.80	14.97	.3410	5.08	14.64	930
1	1/56 - 12/70	13	90.0	42.03	13.53	.3206	4.86	12.79	930
1	1/56 - 12/70	14	90.0	39.89	12.30	.3140	4.27	10.86	930
1	1/56 - 12/70	15	90.0	35.69	10.67	.2995	4.04	9.81	930
1	1/56 - 12/70	16	90.0	30.67	9.25	.2726	3.56	8.47	930
1	1/56 - 12/70	17	90.0	24.73	8.44	.2632	2.57	7.34	930
1	1/56 - 12/70	18	90.0	18.31	7.79	.2965	1.82	5.82	930
1	1/56 - 12/70	19	90.0	12.73	7.35	.2669	1.07	4.55	930
1	1/56 - 12/70	20	90.0	8.73	6.82	.2940	.55	3.84	930
1	1/56 - 12/70	21	90.0	6.45	7.06	.2309	.23	3.61	930
1	1/56 - 12/70	22	90.0	5.32	7.75	.2506	.29	3.72	930
1	1/56 - 12/70	23	90.0	4.93	8.30	.2469	.54	3.95	930
1	1/56 - 12/70	24	90.0	5.18	9.13	.2076	.64	3.88	930
1	1/56 - 12/70	25	90.0	6.23	9.64	.1650	.81	4.17	930
1	1/56 - 12/70	26	90.0	7.60	11.16	.1782	1.04	4.60	930
1	1/56 - 12/70	27	90.0	8.20	12.53	.1350	1.56	5.28	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.55	3.25	-.2792	-.30	3.60	848

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.45	-.09

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.54	3.27	.4446	-.30	3.60	.4909	-.2807	.0937	-.4020	.46	2.76	-.2327	-.21	3.01
24	.55	3.29	.2933	-.32	3.58	.1802	-.2877	.1198	-.3418	.47	2.99	-.2863	-.27	3.48
36	.55	3.27	.1126	-.34	3.57	-.0149	-.2827	.0927	-.1897	.50	3.19	-.2949	-.31	3.58
48	.52	3.28	.1225	-.34	3.58	-.0354	-.2823	-.0072	-.1057	.52	3.22	-.2844	-.31	3.60
60	.51	3.27	.0643	-.32	3.61	-.0660	-.2755	.0227	-.0755	.53	3.24	-.2861	-.31	3.59
72	.52	3.28	.0688	-.31	3.60	-.0246	-.2704	-.0016	-.0581	.53	3.24	-.2812	-.31	3.60

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.81	7.22	-.0335	1.72	6.61	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.84	7.27	.6614	1.75	6.61	.5535	-.0328	.3250	-.3702
24	3.89	7.26	.3299	1.73	6.63	.2090	-.0427	.2995	-.3891
36	3.86	7.19	.1132	1.73	6.63	.0320	-.0337	.1472	-.2812
48	3.86	7.18	.0709	1.74	6.64	.0175	-.0313	.0034	-.2058
60	3.88	7.15	.0281	1.76	6.65	.0119	-.0266	-.0162	-.1543
72	3.91	7.12	-.0190	1.77	6.61	-.0221	-.0227	-.0166	-.1085

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.65	2.35

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.46	4.79	-.1025	2.00	5.02
3.48	6.25	-.0610	1.79	6.14
3.60	6.88	-.0423	1.71	6.54
3.66	7.05	-.0309	1.73	6.61
3.71	7.13	-.0317	1.73	6.61
3.75	7.17	-.0365	1.71	6.61

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.15	7.73	-.0181	1.51	6.70	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	8.22	7.80	.7031	1.58	6.71	.5967	-.0154	.2623	-.2920
24	8.29	7.77	.4614	1.55	6.71	.3046	-.0208	.2517	-.3244
36	8.27	7.71	.2917	1.54	6.74	.1254	-.0133	.1526	-.2771
48	8.27	7.71	.2131	1.56	6.75	.0698	-.0155	.0643	-.2216
60	8.30	7.66	.1525	1.57	6.74	.0363	-.0068	.0395	-.1962
72	8.30	7.61	.0901	1.55	6.69	-.0214	-.0065	.0132	-.1565

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.02	2.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.85	5.05	-.0681	1.76	5.06
7.83	6.41	-.0483	1.61	6.15
7.90	7.09	-.0310	1.54	6.57
7.96	7.37	-.0173	1.53	6.67
7.99	7.49	-.0176	1.52	6.69
8.02	7.61	-.0230	1.49	6.70

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QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
12.05	8.26	.0079	1.75	7.36	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	12.13	8.30	.7379	1.84	7.36	.6284	.0123	.1999	-.2677
24	12.19	8.28	.5394	1.82	7.37	.3484	.0050	.1922	-.3237
36	12.25	8.17	.4101	1.79	7.41	.2047	.0100	.1274	-.2876
48	12.28	8.13	.3465	1.79	7.40	.1426	.0122	.0783	-.2382
60	12.31	8.08	.2971	1.79	7.35	.0972	.0219	.0687	-.2083
72	12.31	8.06	.2287	1.77	7.31	.0295	.0272	.0407	-.1781

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.81	2.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.65	5.08	.0725	2.05	5.54
11.64	6.42	.0250	1.89	6.75
11.67	7.14	.0178	1.82	7.14
11.72	7.48	.0169	1.80	7.26
11.75	7.68	.0087	1.78	7.30
11.80	7.89	.0040	1.75	7.35

QUADF VARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.46	9.18	-.0035	2.26	8.05	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	15.56	9.20	.7731	2.37	6.06	.6254	-.0005	.1689	-.2435
24	15.64	9.21	.5965	2.39	8.12	.3859	-.0122	.1576	-.3026
36	15.68	9.11	.4836	2.38	8.18	.2457	-.0119	.1235	-.2566
48	15.73	9.02	.4223	2.35	8.20	.1755	-.0073	.1004	-.2256
60	15.76	8.95	.3619	2.31	8.19	.1072	.0026	.1002	-.2073
72	15.75	8.89	.2687	2.29	8.10	.0725	.0126	.0574	-.1668

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

DT HR	GIVEN X: MEAN XP	GIVEN X: S.D. XP	GIVEN X: R (XP,YP)	GIVEN X: MEAN YP	GIVEN X: S.D. YP	GIVEN Y: MEAN XP	GIVEN Y: S.D. XP	GIVEN Y: R (XP,YP)	GIVEN Y: MEAN YP	GIVEN Y: S.D. YP
12	14.81	5.38	.0403	2.53	6.13	14.92	2.95			
24	14.85	6.85	.0252	2.38	7.31					
36	14.93	7.70	-.0015	2.32	7.74					
48	14.97	8.07	-.0078	2.29	7.88					
60	15.00	8.34	-.0194	2.25	7.96					
72	15.11	8.71	-.0071	2.27	8.01					

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
19.12	10.18	.0155	2.64	8.97	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	19.26	10.20	.8110	2.73	8.98	.6308	.0167	.1743	-.1864
24	19.40	10.23	.6445	2.77	9.07	.3914	.0122	.1681	-.2440
36	19.46	10.17	.5256	2.80	9.14	.2668	.0157	.1481	-.2097
48	19.53	10.07	.4533	2.80	9.14	.2040	.0238	.1311	-.1854
60	19.55	9.98	.3818	2.75	9.14	.1488	.0330	.1137	-.1789
72	19.55	9.88	.3047	2.75	9.05	.1336	.0468	.0932	-.1536

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.45	3.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
18.30	5.59	.0016	2.96	6.80
18.32	7.35	.0081	2.76	8.12
18.43	8.37	-.0059	2.67	8.55
18.48	8.85	-.0053	2.64	8.71
18.54	9.20	-.0001	2.62	8.81
18.64	9.54	.0096	2.64	8.85

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
23.14	11.15	.0938	3.18	9.51	848

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
22.34	4.08

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	23.31	11.23	.8136	3.31	9.52	.6428	.0951	.2146	-.0849	22.20	6.22	.0503	3.54	7.14
24	23.46	11.26	.6497	3.32	9.60	.4022	.0915	.2022	-.1437	22.22	8.16	.0622	3.32	8.57
36	23.53	11.18	.5415	3.36	9.75	.2845	.0904	.1773	-.1327	22.33	9.15	.0604	3.22	9.01
48	23.62	11.04	.4690	3.36	9.77	.2201	.0922	.1535	-.1249	22.38	9.67	.0677	3.18	9.19
60	23.67	10.99	.3950	3.32	9.78	.1685	.0969	.1300	-.1272	22.45	10.07	.0774	3.17	9.32
72	23.69	10.89	.3303	3.27	9.74	.1516	.1056	.1082	-.1275	22.51	10.37	.0886	3.19	9.36

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
26.89	12.53	.1524	3.58	10.33	848

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.96	4.49

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	27.08	12.59	.8240	3.71	10.31	.6394	.1517	.2368	-.0012	25.83	6.92	.0846	3.93	7.81
24	27.27	12.60	.6725	3.79	10.37	.3866	.1464	.2109	-.0049	25.84	9.04	.1067	3.66	9.39
36	27.38	12.53	.5651	3.83	10.53	.2557	.1427	.1757	-.0820	25.93	10.13	.1182	3.56	9.88
48	27.47	12.35	.4894	3.85	10.59	.1847	.1450	.1555	-.0702	26.00	10.78	.1190	3.52	10.07
60	27.50	12.21	.4226	3.83	10.61	.1286	.1523	.1483	-.0738	26.08	11.22	.1190	3.48	10.16
72	27.53	12.15	.3523	3.79	10.59	.1251	.1573	.1237	-.0821	26.17	11.60	.1356	3.51	10.19

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
30.63	14.01	.1902	3.79	11.35	848

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.58	4.67

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	30.80	14.04	.8395	3.90	11.34	.6715	.1854	.2567	.0491	29.48	7.46	.1122	4.15	8.27
24	31.01	14.05	.7007	3.93	11.40	.4125	.1783	.2473	.0050	29.48	9.85	.0996	3.86	10.14
36	31.11	13.92	.5893	3.96	11.56	.2526	.1680	.2084	-.0107	29.59	11.21	.1206	3.73	10.82
48	31.19	13.72	.5043	3.99	11.63	.1667	.1682	.1797	-.0199	29.68	12.01	.1369	3.67	11.06
60	31.21	13.52	.4338	3.96	11.65	.1224	.1721	.1648	-.0365	29.76	12.52	.1475	3.65	11.14
72	31.25	13.41	.3668	3.92	11.64	.1024	.1780	.1519	-.0370	29.86	12.95	.1563	3.65	11.19

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
34.59	15.74	.2343	4.11	12.35	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	34.74	15.75	.8490	4.23	12.36	.6883	.2262	.2675	.1203
24	34.95	15.71	.7298	4.22	12.45	.4247	.2139	.2480	.0708
36	35.07	15.55	.6317	4.28	12.63	.2707	.2069	.2192	.0535
48	35.18	15.38	.5451	4.31	12.69	.1801	.2069	.1966	.0331
60	35.25	15.18	.4741	4.28	12.71	.1425	.2103	.1744	.0184
72	35.30	15.04	.4114	4.22	12.71	.1180	.2092	.1657	.0101

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
33.44	4.88

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
33.39	8.24	.1455	4.43	8.85
33.38	10.67	.1432	4.17	11.01
33.46	12.14	.1559	4.03	11.71
33.53	13.13	.1713	3.96	11.98
33.60	13.79	.1872	3.96	12.09
33.69	14.29	.1936	3.94	12.14

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
38.27	16.92	.2549	4.15	13.76	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	38.43	16.87	.8604	4.27	13.79	.7061	.2476	.2624	.1860
24	38.66	16.82	.7358	4.27	13.87	.4438	.2383	.2391	.1363
36	38.84	16.69	.6340	4.40	13.94	.2932	.2276	.1971	.0954
48	39.00	16.51	.5602	4.45	14.00	.2031	.2280	.1719	.0785
60	39.13	16.35	.5013	4.47	14.03	.1673	.2302	.1547	.0682
72	39.25	16.31	.4475	4.43	14.02	.1541	.2279	.1493	.0680

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
36.89	4.76

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
36.91	8.61	.1329	4.37	9.67
36.92	11.44	.1586	4.15	12.19
36.96	13.05	.1953	4.02	13.03
37.01	13.99	.2082	3.97	13.36
37.06	14.62	.2175	3.96	13.47
37.14	15.12	.2194	3.95	13.50

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
42.03	17.71	.2767	4.15	14.98	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	42.18	17.65	.8625	4.26	14.96	.7291	.2670	.2697	.2337
24	42.34	17.53	.7436	4.25	15.04	.4783	.2580	.2459	.1915
36	42.49	17.34	.6495	4.41	15.13	.3042	.2521	.2117	.1468
48	42.63	17.15	.5846	4.46	15.26	.2226	.2497	.1959	.1097
60	42.78	17.04	.5238	4.45	15.29	.1968	.2503	.1755	.0910
72	42.89	16.99	.4667	4.37	15.29	.1886	.2441	.1614	.0939

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.48	4.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
40.56	8.96	.1214	4.34	10.18
40.63	11.84	.1618	4.13	13.01
40.68	13.46	.2007	3.97	14.11
40.69	14.35	.2162	3.91	14.44
40.74	15.07	.2314	3.91	14.55
40.83	15.66	.2373	3.94	14.60

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
44.66	17.25	.2765	4.30	14.65	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	44.77	17.18	.8461	4.42	14.62	.7626	.2673	.2607	.2525
24	44.88	17.03	.7324	4.46	14.61	.5234	.2634	.2312	.2065
36	45.01	16.84	.6452	4.53	14.64	.3502	.2593	.2106	.1501
48	45.06	16.59	.5844	4.57	14.68	.2517	.2618	.1969	.1261
60	45.13	16.43	.5369	4.53	14.68	.2186	.2619	.1814	.1003
72	45.20	16.37	.4828	4.48	14.65	.2116	.2583	.1603	.0858

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
43.16	4.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
43.32	9.18	.1059	4.51	9.43
43.40	11.74	.1743	4.33	12.40
43.43	13.18	.2060	4.18	13.60
43.48	13.99	.2152	4.12	14.03
43.51	14.54	.2289	4.12	14.17
43.59	15.09	.2424	4.15	14.22

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
44.51	15.90	.3462	4.25	12.82	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	44.56	15.84	.8145	4.34	12.81	.7562	.3402	.3108	.3050
24	44.62	15.76	.7161	4.41	12.84	.5391	.3332	.2772	.2524
36	44.77	15.62	.6282	4.43	12.87	.3651	.3224	.2406	.1894
48	44.82	15.32	.5757	4.47	12.89	.2707	.3167	.2058	.1324
60	44.80	15.18	.5267	4.39	12.89	.2396	.3127	.2004	.1077
72	44.77	15.02	.4706	4.33	12.87	.2286	.3084	.1943	.0974

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
43.27	4.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
43.48	9.21	.1919	4.46	8.36
43.54	11.10	.2413	4.28	10.72
43.54	12.37	.2778	4.17	11.82
43.54	12.97	.3070	4.13	12.23
43.61	13.48	.3087	4.13	12.33
43.71	14.01	.3102	4.15	12.37

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
41.43	13.82	.3179	3.82	11.13	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	41.51	13.84	.7852	3.91	11.13	.7576	.3096	.2958	.2447
24	41.57	13.84	.6850	3.96	11.16	.5498	.3024	.2741	.1771
36	41.68	13.84	.5814	3.97	11.22	.3722	.2917	.2274	.1211
48	41.68	13.62	.5227	3.99	11.25	.2685	.2841	.1837	.0769
60	41.61	13.50	.4753	3.90	11.24	.2149	.2779	.1868	.0645
72	41.65	13.43	.4225	3.85	11.26	.1969	.2749	.1894	.0563

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.23	4.23

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
40.43	8.56	.2098	3.99	7.23
40.49	10.06	.2417	3.83	9.21
40.55	11.22	.2703	3.76	10.23
40.61	11.73	.2938	3.74	10.64
40.70	12.12	.2840	3.72	10.77
40.76	12.49	.2818	3.71	10.80

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
36.59	11.99	.2316	3.12	9.31	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	36.61	12.04	.7690	3.21	9.31	.7506	.2271	.2555	.1449
24	36.73	12.04	.6743	3.27	9.37	.5455	.2229	.2386	.0836
36	36.85	12.02	.5911	3.31	9.42	.3838	.2191	.1805	.0493
48	36.86	11.90	.5357	3.37	9.47	.3067	.2133	.1362	.0173
60	36.86	11.80	.4794	3.34	9.46	.2530	.2077	.1449	-.0104
72	36.86	11.75	.4302	3.33	9.48	.2117	.2043	.1395	-.0387

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
35.54	3.51

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
35.75	7.66	.1361	3.27	6.10
35.75	8.82	.1725	3.13	7.73
35.77	9.62	.2089	3.09	8.55
35.83	10.06	.2347	3.08	8.84
35.89	10.44	.2240	3.06	8.97
35.95	10.71	.2254	3.05	9.06

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
31.60	10.60	.1868	2.82	8.17	848

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
30.66	3.13

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	31.60	10.65	.7628	2.87	8.15	.7415	.1759	.2327	.0829	30.86	6.83	.1084	2.94	5.41
24	31.65	10.67	.6342	2.89	8.21	.5478	.1686	.2371	.0228	30.93	8.15	.1270	2.83	6.73
36	31.72	10.66	.5338	2.91	8.27	.3344	.1592	.1904	.0064	30.99	8.93	.1495	2.80	7.43
48	31.74	10.54	.4708	2.93	8.30	.2891	.1530	.1318	.0034	31.06	9.33	.1713	2.80	7.79
60	31.75	10.45	.4402	2.93	8.30	.2211	.1503	.1112	-.0085	31.08	9.49	.1764	2.79	7.94
72	31.71	10.45	.3898	2.98	8.33	.1896	.1511	.1151	-.0232	31.15	9.72	.1744	2.78	7.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
25.58	9.47	.1912	2.08	6.94	848

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
24.78	2.20

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	25.59	9.48	.7106	2.12	6.96	.7046	.1827	.2120	.0741	24.99	6.64	.1600	2.08	4.89
24	25.61	9.52	.5923	2.15	7.02	.5358	.1781	.2016	.0242	25.07	7.59	.1696	2.04	5.81
36	25.65	9.50	.5152	2.15	7.08	.3962	.1678	.1733	.0181	25.12	8.09	.1641	2.03	6.33
48	25.65	9.43	.4155	2.17	7.11	.3004	.1629	.1183	.0076	25.21	8.60	.1847	2.04	6.60
60	25.58	9.35	.3900	2.16	7.11	.2462	.1609	.1020	.0165	25.26	8.71	.1825	2.05	6.71
72	25.57	9.34	.3413	2.20	7.16	.2054	.1643	.1130	-.0004	25.30	8.89	.1787	2.03	6.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
19.13	8.67	.3013	1.41	5.66	848

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.46	1.43

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	19.13	8.69	.6077	1.46	5.64	.6813	.2993	.3030	.1419	18.72	6.88	.2489	1.34	4.10
24	19.14	8.75	.5146	1.50	5.69	.5262	.2859	.2833	.0939	18.78	7.42	.2525	1.32	4.75
36	19.12	8.76	.4217	1.52	5.74	.3849	.2637	.2271	.0716	18.86	7.85	.2650	1.33	5.17
48	19.16	8.75	.3449	1.53	5.77	.2811	.2467	.2041	.0577	18.89	8.13	.2667	1.33	5.37
60	19.13	8.66	.2877	1.53	5.80	.2421	.2476	.1745	.0627	18.94	8.30	.2742	1.34	5.45
72	19.09	8.57	.2242	1.56	5.80	.2213	.2521	.1569	.0766	18.99	8.45	.2776	1.34	5.48

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.20	7.97	.2650	1.01	4.55	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	13.15	8.01	.6196	1.06	4.54	.5984	.2604	.2595	.1345
24	13.15	8.03	.5160	1.08	4.55	.4935	.2596	.2394	.1042
36	13.11	8.04	.4567	1.10	4.56	.3485	.2512	.2053	.0776
48	13.10	8.06	.3747	1.09	4.56	.2413	.2445	.1567	.0475
60	13.07	8.01	.2752	1.11	4.57	.1882	.2387	.1433	.0073
72	13.02	7.95	.2728	1.13	4.59	.1523	.2449	.1100	.0321

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.40	1.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.73	6.25	.1919	.98	3.61
12.81	6.83	.2103	.97	3.92
12.87	7.09	.2216	.96	4.23
12.93	7.38	.2415	.97	4.39
13.01	7.65	.2508	.97	4.45
13.03	7.67	.2529	.98	4.49

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.19	7.58	.2690	.70	3.95	848

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.13	.76

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	8.16	7.62	.5836	.73	3.94	.4630	.2661	.1972	.1644	7.60	6.16	.2091	.67	3.49
24	8.16	7.63	.4998	.72	3.93	.3908	.2647	.2030	.0856	7.66	6.56	.2331	.65	3.62
36	8.13	7.64	.4551	.70	3.97	.2478	.2621	.2113	.0655	7.72	6.74	.2164	.63	3.78
48	8.10	7.63	.4679	.69	3.96	.1842	.2650	.1678	.0589	7.71	6.68	.2331	.64	3.86
60	8.08	7.66	.3459	.68	3.95	.1190	.2619	.1409	.0704	7.86	7.11	.2400	.65	3.90
72	8.06	7.68	.3374	.68	3.94	.0918	.2614	.1470	.0533	7.87	7.13	.2384	.64	3.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.46	7.47	.2325	.20	4.41	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.43	7.46	.6325	.22	4.42	.4795	.2303	.1930	.1478
24	5.40	7.47	.5542	.21	4.40	.4047	.2292	.1754	.1316
36	5.34	7.49	.4711	.18	4.38	.1802	.2248	.1802	.0959
48	5.26	7.53	.4433	.20	4.33	.1892	.2250	.1886	.0674
60	5.26	7.52	.3952	.20	4.32	.1125	.2202	.1945	.0266
72	5.18	7.58	.3868	.20	4.32	.1454	.2233	.2023	.0050

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.02	.01

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.56	5.78	.1617	.04	3.85
4.69	6.22	.1762	.05	4.01
4.84	6.59	.1737	.07	4.29
4.92	6.69	.1770	.06	4.28
4.97	6.84	.1785	.06	4.31
5.02	6.86	.1820	.06	4.29

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.26	7.90	.2223	-.12	4.06	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.24	7.91	.6619	-.11	4.08	.4325	.2215	.2123	.1399
24	4.20	7.88	.6249	-.13	4.09	.4227	.2203	.1951	.0756
36	4.14	7.87	.5427	-.14	4.08	.2157	.2215	.1816	.0773
48	4.12	7.84	.5242	-.12	4.09	.2790	.2190	.2001	.0482
60	4.08	7.84	.4356	-.11	4.07	.0984	.2158	.1862	.0602
72	4.04	7.88	.4099	-.11	4.06	.1888	.2104	.1445	.0409

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.46	-.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.09	5.92	.1262	-.37	3.63
3.19	6.15	.1787	-.34	3.66
3.35	6.63	.1624	-.30	3.93
3.40	6.71	.1661	-.32	3.86
3.56	7.11	.1625	-.28	3.99
3.62	7.20	.1919	-.26	3.97

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.74	8.06	.2440	.13	4.00	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.70	8.07	.6846	.09	4.03	.2983	.2519	.2399	.1688
24	3.62	8.05	.5291	.05	4.05	.5194	.2561	.2188	.1415
36	3.58	8.04	.5614	.00	4.04	.1894	.2618	.2122	.1111
48	3.50	8.05	.5509	-.02	4.05	.3332	.2707	.2090	.1219
60	3.44	8.04	.5124	-.03	4.06	.0849	.2721	.1621	.0931
72	3.35	8.05	.5108	-.04	4.08	.1874	.2794	.1505	.1136

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.70	-.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.37	5.88	.1178	-.11	3.75
2.53	6.26	.1757	-.07	3.40
2.68	6.66	.1626	-.06	3.87
2.74	6.72	.1757	-.03	3.74
2.84	6.91	.1928	-.00	3.94
2.90	6.93	.2046	.02	3.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.05	8.35	.2162	.26	3.81	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.01	8.31	.7227	.21	3.83	.3942	.2173	.1971	.1404
24	4.01	8.23	.6736	.20	3.84	.4246	.2175	.1814	.1232
36	3.96	8.21	.6239	.15	3.77	.1741	.2279	.1637	.1333
48	3.99	8.17	.5958	.12	3.79	.2940	.2396	.1402	.1507
60	3.97	8.14	.5753	.12	3.78	.0767	.2380	.1091	.1396
72	3.95	8.17	.5294	.13	3.76	.1956	.2445	.1055	.1325

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.82	-.02

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.45	5.77	.1268	.06	3.47
2.55	6.17	.1555	.08	3.43
2.68	6.52	.1511	.10	3.72
2.73	6.70	.1704	.15	3.63
2.78	6.83	.1887	.15	3.78
2.89	7.08	.1924	.17	3.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.36	9.14	.2920	.06	3.70	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.29	9.09	.7773	.05	3.70	.4110	.2926	.2303	.2358
24	4.24	9.04	.7229	.03	3.71	.4453	.2948	.2503	.2721
36	4.21	8.95	.6685	.02	3.70	.2347	.2926	.1927	.2296
48	4.21	8.92	.6256	.01	3.70	.2270	.2929	.2055	.2393
60	4.18	8.91	.6006	.02	3.70	.1014	.2865	.1524	.2204
72	4.18	8.91	.5711	.02	3.71	.1525	.2913	.1448	.2335

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.94	-.33

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.52	5.75	.1930	-.20	3.34
2.67	6.29	.1425	-.21	3.28
2.80	6.79	.2187	-.14	3.56
2.90	7.11	.2045	-.15	3.56
2.97	7.29	.2508	-.09	3.65
3.04	7.48	.2503	-.09	3.63

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.02	9.73	.2482	.12	3.94	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.00	9.64	.8014	.09	3.91	.4198	.2522	.1689	.1750
24	4.95	9.53	.7614	.09	3.91	.3812	.2515	.1654	.1990
36	4.90	9.51	.7138	.03	3.86	.1859	.2586	.1630	.2341
48	4.86	9.55	.6727	-.00	3.85	.2212	.2605	.1798	.2519
60	4.83	9.57	.6242	-.00	3.85	.1046	.2551	.1369	.2445
72	4.77	9.58	.5826	.01	3.81	.1159	.2599	.1229	.2255

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.52	-.26

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.02	5.82	.2289	-.09	3.56
3.13	6.31	.2001	-.08	3.63
3.28	6.80	.1825	-.05	3.84
3.41	7.16	.1588	-.05	3.81
3.55	7.56	.2040	-.01	3.89
3.69	7.88	.2125	.00	3.89

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.64	10.54	.1685	.23	3.98	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.61	10.40	.8060	.18	3.97	.4912	.1769	.1466	.1162
24	5.57	10.23	.7559	.17	3.95	.4255	.1744	.1409	.1009
36	5.48	10.21	.7292	.13	3.94	.2779	.1767	.1288	.1219
48	5.50	10.17	.7079	.10	3.92	.2662	.1762	.1248	.1622
60	5.50	10.09	.6495	.10	3.91	.1397	.1628	.1372	.1314
72	5.44	10.08	.6208	.14	3.83	.1253	.1630	.1317	.1048

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.06	-.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.57	6.23	.1225	.04	3.46
3.70	6.89	.1268	.05	3.59
3.83	7.21	.1167	.09	3.81
3.85	7.43	.1044	.10	3.82
3.99	8.01	.1021	.09	3.92
4.10	8.26	.1118	.10	3.92

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2	1/56 - 12/70	0	90.0	.55	3.26	-.2792	-.30	3.60	848
2	1/56 - 12/70	1	90.0	3.81	7.22	-.0335	1.72	6.61	848
2	1/56 - 12/70	2	90.0	8.15	7.73	-.0181	1.51	6.70	848
2	1/56 - 12/70	3	90.0	12.05	8.26	.0079	1.75	7.36	848
2	1/56 - 12/70	4	90.0	15.46	9.18	-.0035	2.26	8.05	848
2	1/56 - 12/70	5	90.0	19.12	10.18	.0155	2.64	8.97	848
2	1/56 - 12/70	6	90.0	23.14	11.15	.0938	3.18	9.51	848
2	1/56 - 12/70	7	90.0	26.89	12.53	.1524	3.58	10.33	848
2	1/56 - 12/70	8	90.0	30.63	14.01	.1902	3.79	11.35	848
2	1/56 - 12/70	9	90.0	34.59	15.74	.2343	4.11	12.35	848
2	1/56 - 12/70	10	90.0	38.27	16.92	.2549	4.15	13.76	848
2	1/56 - 12/70	11	90.0	42.03	17.71	.2767	4.15	14.98	848
2	1/56 - 12/70	12	90.0	44.66	17.25	.2765	4.30	14.65	848
2	1/56 - 12/70	13	90.0	44.51	15.90	.3462	4.25	12.82	848
2	1/56 - 12/70	14	90.0	41.43	13.82	.3179	3.82	11.13	848
2	1/56 - 12/70	15	90.0	36.59	11.99	.2316	3.12	9.31	848
2	1/56 - 12/70	16	90.0	31.60	10.60	.1868	2.82	8.17	848
2	1/56 - 12/70	17	90.0	25.58	9.47	.1912	2.08	6.94	848
2	1/56 - 12/70	18	90.0	19.13	8.67	.3013	1.41	5.66	848
2	1/56 - 12/70	19	90.0	13.20	7.97	.2650	1.01	4.55	848
2	1/56 - 12/70	20	90.0	8.19	7.58	.2690	.70	3.95	848
2	1/56 - 12/70	21	90.0	5.46	7.47	.2325	.20	4.41	848
2	1/56 - 12/70	22	90.0	4.26	7.90	.2223	-.12	4.06	848
2	1/56 - 12/70	23	90.0	3.74	8.06	.2440	.13	4.00	848
2	1/56 - 12/70	24	90.0	4.05	8.35	.2162	.26	3.81	848
2	1/56 - 12/70	25	90.0	4.36	9.14	.2920	.06	3.70	848
2	1/56 - 12/70	26	90.0	5.02	9.73	.2482	.12	3.94	848
2	1/56 - 12/70	27	90.0	5.64	10.54	.1685	.23	3.98	848

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.07	3.20	-.2107	.00	3.57	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	3.21	.4089	.01	3.57	.4483	-.2058	.1477	-.3296
24	-.00	3.23	.2967	.03	3.59	.2151	-.1991	.1673	-.3250
36	-.01	3.25	.0732	.02	3.59	.0291	-.1962	.1692	-.1749
48	-.02	3.25	.0594	.02	3.58	-.0031	-.1929	.1005	-.0834
60	-.03	3.26	-.0188	.03	3.54	-.0395	-.1923	.0795	.0275
72	-.06	3.26	.0236	.02	3.53	-.0261	-.2013	.0659	.0004

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.08	-.05

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.10	2.81	-.1967	-.01	3.07
.10	2.93	-.2195	.00	3.40
.08	3.15	-.2210	.02	3.51
.07	3.19	-.2174	.01	3.55
.06	3.20	-.2094	.02	3.55
.07	3.20	-.2127	.02	3.56

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.18	7.05	.0096	1.64	6.24	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.14	7.04	.6416	1.61	6.25	.5486	.0100	.3423	-.3292
24	3.07	7.05	.3092	1.62	6.25	.2536	.0206	.3638	-.3431
36	3.06	7.10	.1195	1.61	6.23	.0482	.0252	.2308	-.2023
48	3.02	7.11	.0629	1.56	6.20	.0032	.0300	.1460	-.1127
60	2.97	7.14	.0361	1.53	6.20	-.0085	.0252	.0824	-.0425
72	2.87	7.13	.0346	1.49	6.19	.0057	.0207	.0644	-.0070

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.22	1.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.20	4.86	-.0512	1.71	4.77
3.20	6.23	-.0212	1.71	5.60
3.18	6.85	-.0098	1.68	6.06
3.18	6.99	.0003	1.67	6.17
3.18	7.04	.0062	1.66	6.22
3.19	7.04	.0074	1.66	6.23

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.28	7.30	.0412	1.31	6.13	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.18	7.29	.6853	1.26	6.13	.5392	.0438	.3150	-.2423
24	7.08	7.33	.4373	1.29	6.13	.2898	.0555	.3034	-.2849
36	7.03	7.42	.2537	1.26	6.12	.0876	.0660	.2325	-.1827
48	6.97	7.49	.1786	1.21	6.07	.0198	.0730	.1589	-.0805
60	6.89	7.55	.1481	1.17	6.08	.0168	.0672	.1135	-.0395
72	6.77	7.58	.1468	1.14	6.09	-.0056	.0670	.0897	-.0271

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.28	1.41

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.30	4.93	-.0586	1.41	4.85
7.33	6.16	-.0088	1.39	5.60
7.31	6.90	-.0036	1.37	5.95
7.31	7.15	.0141	1.35	6.06
7.32	7.21	.0254	1.35	6.09
7.34	7.21	.0281	1.34	6.11

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.87	8.27	.0818	1.28	6.64	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	10.75	8.28	.7509	1.23	6.62	.5801	.0746	.2621	-.1934
24	10.66	8.32	.5461	1.24	6.62	.3335	.0859	.2382	-.2463
36	10.55	8.42	.3950	1.26	6.59	.1608	.0922	.1730	-.1809
48	10.46	8.50	.3218	1.23	6.57	.0778	.0964	.1159	-.0914
60	10.38	8.57	.2774	1.17	6.61	.0412	.0945	.0942	-.0303
72	10.28	8.59	.2385	1.13	6.63	.0243	.0944	.0908	-.0030

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
10.73	1.34

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.82	5.05	.0535	1.34	5.21
10.88	6.49	.0613	1.33	6.10
10.92	7.38	.0520	1.32	6.46
10.94	7.76	.0567	1.31	6.58
10.95	7.93	.0603	1.31	6.60
10.97	8.03	.0627	1.32	6.61

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14.56	9.28	.0903	1.08	7.35	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	14.43	9.33	.7800	1.02	7.33	.5719	.0880	.2401	-.1178
24	14.31	9.36	.5950	.96	7.28	.3471	.1030	.2233	-.1644
36	14.21	9.44	.4769	.92	7.28	.1905	.1122	.1752	-.1250
48	14.08	9.51	.4202	.92	7.28	.0917	.1163	.1093	-.0750
60	13.97	9.60	.3667	.86	7.32	.0510	.1204	.0905	-.0276
72	13.87	9.65	.3231	.79	7.33	.0300	.1204	.0693	.0120

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.16	1.02

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.35	5.54	.0137	1.04	5.87
14.45	7.16	.0442	1.08	6.76
14.51	7.99	.0451	1.09	7.13
14.58	8.35	.0594	1.09	7.29
14.62	8.61	.0650	1.10	7.32
14.65	8.78	.0725	1.10	7.33

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.59	10.23	.1566	1.12	7.88	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	18.43	10.29	.7903	1.06	7.86	.6162	.1576	.2884	-.0253
24	18.29	10.30	.6374	1.00	7.81	.3894	.1666	.2641	-.0707
36	18.19	10.35	.5205	.95	7.73	.2389	.1656	.2023	-.0684
48	18.05	10.41	.4644	.94	7.77	.1247	.1670	.1441	-.0406
60	17.93	10.50	.3992	.86	7.81	.0795	.1722	.1018	-.0118
72	17.81	10.58	.3613	.78	7.81	.0662	.1749	.0658	.0077

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
17.95	.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
18.23	6.07	.0361	.98	6.02
18.37	7.67	.0759	1.05	7.08
18.46	8.59	.1045	1.09	7.54
18.54	8.98	.1179	1.11	7.76
18.59	9.35	.1336	1.13	7.83
18.63	9.52	.1466	1.13	7.85

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
22.67	11.10	.1958	1.45	8.66	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	22.46	11.11	.8048	1.36	8.61	.6626	.1994	.2975	.0406
24	22.32	11.14	.6579	1.30	8.57	.4282	.2037	.2665	-.0308
36	22.18	11.25	.5470	1.25	8.42	.2273	.2008	.2136	-.0443
48	22.02	11.32	.4796	1.23	8.45	.1360	.2032	.1549	-.0214
60	21.87	11.41	.4185	1.15	8.48	.0838	.2094	.1177	.0076
72	21.70	11.47	.3831	1.09	8.50	.0686	.2109	.0731	.0146

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
21.77	1.30

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
22.11	6.44	.0748	1.32	6.32
22.29	8.14	.1305	1.37	7.66
22.43	9.12	.1377	1.40	8.30
22.53	9.64	.1576	1.43	8.50
22.61	10.04	.1690	1.45	8.58
22.68	10.22	.1869	1.46	8.62

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
26.54	12.07	.2262	1.75	9.64	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	26.29	12.11	.8178	1.63	9.62	.7101	.2282	.3068	.0912
24	26.14	12.12	.6666	1.60	9.60	.4554	.2323	.2955	.0339
36	26.01	12.22	.5569	1.56	9.47	.2544	.2349	.2453	.0255
48	25.84	12.32	.4858	1.53	9.50	.1568	.2363	.1724	.0416
60	25.70	12.46	.4268	1.44	9.52	.1028	.2412	.1150	.0321
72	25.50	12.54	.3902	1.34	9.51	.0884	.2405	.0793	.0287

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.51	1.53

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
25.90	6.85	.1019	1.57	6.63
26.12	8.87	.1233	1.62	8.37
26.26	9.94	.1429	1.67	9.14
26.38	10.51	.1779	1.72	9.42
26.46	10.88	.2048	1.75	9.54
26.53	11.08	.2192	1.77	9.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
30.26	13.06	.2149	1.88	10.45	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	30.03	13.12	.8227	1.79	10.44	.7364	.2227	.2934	.0933
24	29.85	13.14	.6779	1.76	10.42	.5051	.2294	.2817	.0382
36	29.69	13.26	.5712	1.71	10.31	.3152	.2348	.2289	.0421
48	29.51	13.37	.5050	1.66	10.33	.1802	.2373	.1705	.0538
60	29.35	13.50	.4402	1.58	10.37	.1114	.2439	.1046	.0433
72	29.16	13.59	.3982	1.47	10.36	.0804	.2449	.0718	.0282

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.07	1.64

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
29.47	7.33	.0997	1.67	6.93
29.73	9.47	.1280	1.72	8.64
29.91	10.65	.1437	1.78	9.77
30.04	11.24	.1652	1.83	10.18
30.13	11.70	.1970	1.87	10.35
30.21	11.94	.2098	1.89	10.40

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D Y	N
34.12	14.26	.1757	1.76	12.13	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	33.91	14.37	.8154	1.67	12.11	.7370	.1873	.2495	.0974
24	33.73	14.43	.6641	1.61	12.07	.4932	.1948	.2597	.0416
36	33.56	14.56	.5545	1.54	11.94	.3077	.1983	.2410	.0350
48	33.36	14.65	.4722	1.51	11.97	.1768	.2001	.1886	.0274
60	33.16	14.79	.4070	1.40	11.99	.1004	.2063	.1081	.0166
72	32.95	14.89	.3617	1.31	11.99	.0562	.2134	.0815	.0158

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
32.93	1.53

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
33.32	8.22	.0310	1.57	8.08
33.59	10.59	.0689	1.62	10.36
33.77	11.82	.0806	1.66	11.33
33.91	12.54	.1129	1.71	11.79
34.01	12.99	.1521	1.76	12.02
34.09	13.27	.1606	1.77	12.08

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
38.06	15.53	.1485	1.75	13.59	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	37.88	15.72	.8105	1.68	13.54	.7352	.1591	.2051	.1059
24	37.73	15.82	.6552	1.60	13.55	.4871	.1667	.2345	.0619
36	37.56	15.95	.5380	1.49	13.55	.2856	.1737	.2194	.0366
48	37.32	16.11	.4528	1.42	13.57	.1495	.1760	.1856	.0363
60	37.08	16.30	.3947	1.28	13.56	.0604	.1800	.1387	.0246
72	36.81	16.40	.3411	1.18	13.56	.0323	.1890	.0973	.0294

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
36.77	1.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
37.17	9.09	-.0027	1.50	9.13
37.44	11.71	.0257	1.55	11.68
37.64	13.06	.0568	1.62	12.82
37.82	13.83	.0802	1.68	13.26
37.93	14.25	.1052	1.73	13.45
38.04	14.59	.1239	1.75	13.53

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
41.75	15.95	.1332	1.47	15.24	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	41.57	16.14	.8276	1.40	15.21	.7433	.1428	.1723	.1134
24	41.46	16.33	.6743	1.32	15.25	.4911	.1513	.2184	.0913
36	41.30	16.54	.5562	1.20	15.25	.2807	.1609	.2188	.0809
48	41.09	16.69	.4668	1.13	15.23	.1274	.1673	.1805	.0764
60	40.84	16.88	.4122	1.02	15.20	.0430	.1737	.1238	.0690
72	40.55	17.04	.3753	.94	15.20	.0157	.1841	.0746	.0602

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.36	1.13

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
40.76	8.96	-.0158	1.19	10.14
41.02	11.78	-.0142	1.22	13.09
41.25	13.26	.0174	1.29	14.38
41.42	14.11	.0568	1.36	14.91
41.56	14.54	.0910	1.42	15.12
41.68	14.79	.1139	1.45	15.20

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
44.58	15.38	.1701	1.53	14.81	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	44.47	15.56	.8324	1.46	14.80	.7796	.1784	.1578	.1687
24	44.41	15.78	.6828	1.38	14.88	.5409	.1834	.1723	.1434
36	44.24	15.96	.5671	1.31	14.96	.3400	.1902	.1670	.1281
48	44.11	16.14	.4917	1.26	15.04	.1776	.1948	.1491	.1123
60	43.92	16.36	.4433	1.17	15.04	.0785	.2034	.1164	.1013
72	43.69	16.54	.3909	1.08	15.07	.0416	.2144	.0825	.0801

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
43.35	1.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
43.66	8.52	.0667	1.35	9.27
43.87	11.24	.0700	1.39	12.41
44.09	12.67	.0895	1.42	13.84
44.23	13.39	.1108	1.45	14.47
44.34	13.79	.1326	1.48	14.69
44.45	14.16	.1504	1.51	14.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
44.61	13.79	.1882	1.66	13.10	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	44.55	13.95	.8215	1.58	13.07	.7888	.2015	.1948	.1987
24	44.54	14.15	.7131	1.51	13.12	.5640	.2063	.1953	.1660
36	44.47	14.30	.6149	1.42	13.20	.3441	.2130	.1886	.1412
48	44.37	14.51	.5387	1.31	13.29	.1912	.2219	.1675	.1012
60	44.25	14.71	.4904	1.16	13.33	.0955	.2309	.1325	.0796
72	44.10	14.85	.4581	1.04	13.39	.0663	.2375	.1003	.0610

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
43.54	1.38

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
43.79	7.85	.0063	1.48	8.03
43.92	9.66	.0669	1.52	10.76
44.07	10.87	.0938	1.55	12.20
44.19	11.61	.1231	1.58	12.74
44.27	12.01	.1458	1.60	12.95
44.35	12.24	.1637	1.63	13.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
41.24	12.35	.1337	1.42	10.43	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	41.19	12.45	.7787	1.32	10.43	.7653	.1524	.1794	.0964
24	41.17	12.54	.6646	1.25	10.47	.5365	.1598	.1988	.0613
36	41.09	12.64	.5803	1.18	10.52	.3441	.1668	.1815	.0242
48	40.97	12.84	.4905	1.10	10.57	.2031	.1747	.1673	-.0040
60	40.86	13.00	.4358	1.02	10.60	.1296	.1858	.1426	.0024
72	40.70	13.10	.4055	.93	10.63	.0772	.1919	.1298	-.0003

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.37	1.17

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
40.60	7.74	.0268	1.27	6.68
40.71	9.21	.0398	1.30	8.72
40.82	10.02	.0686	1.34	9.71
40.94	10.70	.0805	1.37	10.12
41.02	11.07	.0906	1.39	10.27
41.09	11.25	.0946	1.40	10.33

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
36.18	10.66	.1018	1.39	9.08	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	36.14	10.79	.7448	1.29	9.11	.7417	.1216	.1746	.0493
24	36.06	10.85	.6258	1.23	9.07	.5252	.1268	.1920	.0146
36	35.98	10.96	.5143	1.15	9.07	.3390	.1332	.1972	-.0218
48	35.87	11.09	.4211	1.07	9.07	.2100	.1400	.1734	-.0106
60	35.71	11.21	.3526	.98	9.09	.1135	.1491	.1476	-.0133
72	35.59	11.26	.3174	.86	9.09	.0414	.1522	.1197	-.0128

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
35.51	1.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
35.71	7.10	.0044	1.37	6.04
35.83	8.29	.0224	1.38	7.84
35.92	9.09	.0368	1.39	8.43
36.01	9.64	.0480	1.40	8.78
36.08	9.95	.0608	1.40	8.95
36.12	10.09	.0695	1.39	9.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
30.54	9.31	.0516	1.15	7.78	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	30.48	9.44	.7293	1.09	7.78	.7610	.0649	.1184	-.0161
24	30.43	9.52	.5845	1.02	7.77	.5576	.0679	.1562	-.0396
36	30.33	9.59	.4666	.95	7.75	.3825	.0736	.1615	-.0542
48	30.26	9.67	.3779	.87	7.75	.2265	.0810	.1537	-.0716
60	30.11	9.75	.3277	.78	7.77	.1257	.0907	.1433	-.0580
72	30.01	9.78	.2821	.64	7.74	.0654	.0925	.1232	-.0580

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
30.22	1.19

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
30.34	6.34	.0300	1.21	5.02
30.40	7.51	.0057	1.22	6.40
30.46	8.19	.0114	1.22	7.12
30.48	8.56	.0175	1.21	7.51
30.53	8.75	.0158	1.20	7.65
30.54	8.89	.0226	1.20	7.71

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
24.31	8.46	.0734	1.22	6.85	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	24.30	8.52	.7028	1.16	6.82	.7281	.0833	.1703	-.0392
24	24.25	8.58	.5484	1.09	6.80	.5462	.0823	.2073	-.0890
36	24.14	8.67	.4127	1.04	6.80	.3584	.0892	.2253	-.0769
48	24.06	8.72	.3381	1.00	6.81	.2256	.0964	.2252	-.0574
60	23.99	8.83	.2868	.93	6.81	.1125	.1111	.2151	-.0334
72	23.86	8.89	.2681	.84	6.77	.0338	.1156	.1883	-.0136

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
24.35	1.28

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
24.33	5.96	.0503	1.31	4.63
24.33	6.98	.0460	1.33	5.63
24.36	7.64	.0233	1.33	6.25
24.38	7.92	.0177	1.32	6.52
24.38	8.08	.0189	1.31	6.66
24.41	8.14	.0248	1.29	6.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
17.64	7.69	.0998	.82	5.64	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	17.64	7.76	.5996	.76	5.66	.6664	.1022	.1864	.0062
24	17.60	7.74	.4475	.68	5.64	.5201	.1062	.2235	-.0508
36	17.51	7.77	.3634	.64	5.62	.3431	.1176	.2117	-.0565
48	17.40	7.78	.3101	.57	5.62	.2367	.1356	.2207	-.0364
60	17.32	7.90	.2533	.51	5.63	.1338	.1515	.1778	-.0238
72	17.23	8.01	.2424	.45	5.64	.0622	.1502	.1593	-.0016

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
17.71	.80

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.68	6.14	.0411	.86	4.15
17.68	6.84	.0661	.90	4.73
17.69	7.12	.0641	.90	5.21
17.72	7.29	.0530	.92	5.38
17.72	7.42	.0652	.90	5.52
17.74	7.46	.0656	.89	5.57

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.16	6.97	.1247	.49	4.60	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	11.18	7.00	.5068	.43	4.60	.6164	.1315	.1551	.0490
24	11.13	7.01	.4100	.35	4.61	.4187	.1327	.1928	-.0138
36	11.10	7.03	.3086	.35	4.65	.2305	.1340	.1367	-.0274
48	11.04	7.06	.2847	.31	4.69	.1668	.1376	.1233	-.0078
60	10.94	7.12	.1985	.26	4.67	.1308	.1434	.1055	.0153
72	10.87	7.21	.2109	.21	4.67	.0931	.1416	.0691	.0297

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.05	.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.09	6.01	.0841	.49	3.61
11.12	6.34	.0894	.52	4.13
11.14	6.62	.1062	.50	4.45
11.15	6.68	.1031	.51	4.51
11.18	6.83	.1089	.51	4.55
11.20	6.82	.1134	.51	4.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12668) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.66	6.55	.1189	.22	3.97	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	6.65	6.55	.4725	.18	3.99	.5066	.1246	.1745	.0784
24	6.56	6.55	.3621	.16	3.99	.4228	.1267	.1560	.0425
36	6.50	6.56	.2754	.17	3.98	.2117	.1285	.1818	.0524
48	6.44	6.59	.2584	.16	3.99	.2016	.1307	.1501	.0220
60	6.36	6.57	.1715	.17	4.00	.1151	.1405	.1660	.0225
72	6.26	6.56	.1846	.14	4.01	.1464	.1465	.1446	.0150

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.30	.23

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.50	5.77	.0356	.22	3.40
6.56	6.10	.0760	.24	3.58
6.61	6.29	.0707	.21	3.83
6.62	6.32	.0877	.22	3.86
6.65	6.45	.0936	.22	3.90
6.66	6.43	.0972	.24	3.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.71	6.21	.0719	-.10	3.61	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.68	6.22	.4861	-.11	3.60	.3469	.0699	.1383	.0304
24	3.62	6.18	.3967	-.10	3.59	.3760	.0693	.1128	-.0265
36	3.59	6.16	.3033	-.07	3.58	.1780	.0623	.1255	-.0264
48	3.57	6.14	.2793	-.08	3.59	.2302	.0668	.0709	-.0242
60	3.50	6.11	.2329	-.09	3.62	.0429	.0710	.1411	-.0292
72	3.51	6.04	.2610	-.10	3.62	.1037	.0760	.0750	-.0431

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.10	-.11

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.43	5.43	.0072	-.14	3.36
3.50	5.69	.0557	-.13	3.33
3.56	5.91	.0447	-.14	3.53
3.58	5.96	.0663	-.12	3.51
3.62	6.03	.0422	-.14	3.57
3.60	5.98	.0612	-.12	3.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.07	6.31	.0503	-.14	3.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.98	6.29	.6051	-.14	3.65	.2831	.0429	.0916	-.0475
24	1.92	6.28	.5098	-.13	3.63	.4447	.0469	.0772	-.0621
36	1.86	6.30	.4113	-.14	3.62	.1073	.0421	.1193	-.0388
48	1.79	6.30	.3849	-.15	3.61	.2432	.0447	.0671	.0001
60	1.74	6.27	.3255	-.15	3.59	.0040	.0476	.0906	.0198
72	1.71	6.23	.3029	-.15	3.59	.2070	.0559	.0494	.0067

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.41	-.07

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.71	5.00	.0204	-.14	3.51
1.80	5.40	.0640	-.13	3.28
1.88	5.74	.0078	-.16	3.63
1.92	5.82	.0321	-.13	3.56
1.96	5.97	.0221	-.16	3.66
1.98	6.01	.0402	-.13	3.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.83	6.43	.0543	-.28	3.59	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.03	-.20

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.80	6.38	.6430	-.27	3.55	.3562	.0344	.0841	-.0161	.28	4.92	.0193	-.29	3.35
24	.79	6.41	.5528	-.26	3.55	.4381	.0208	.0839	-.0486	.37	5.35	.0459	-.29	3.22
36	.71	6.41	.4644	-.26	3.55	.1617	.0159	.0676	-.0688	.47	5.67	.0405	-.30	3.54
48	.68	6.39	.4312	-.24	3.56	.2411	.0143	.0590	-.0169	.52	5.80	.0394	-.29	3.48
60	.63	6.37	.3865	-.27	3.53	.0242	.0083	.0279	.0210	.57	5.93	.0468	-.29	3.59
72	.59	6.35	.3460	-.29	3.52	.1628	.0059	.0420	.0243	.61	6.03	.0391	-.28	3.54

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.53	6.81	.0817	-.43	3.71	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.49	6.76	.6524	-.42	3.71	.3827	.0737	.0277	.0112
24	.42	6.77	.5954	-.41	3.69	.3602	.0704	.0901	-.0089
36	.35	6.77	.5224	-.45	3.69	.2005	.0727	.0158	-.0352
48	.25	6.77	.5153	-.46	3.67	.2037	.0781	.0580	-.0050
60	.15	6.77	.4177	-.48	3.67	.0705	.0734	.0071	-.0136
72	.05	6.71	.4202	-.51	3.67	.1165	.0725	.0757	.0047

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.31	-.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.01	5.15	.1112	-.39	3.43
.08	5.46	.0618	-.42	3.45
.16	5.78	.1059	-.40	3.64
.23	5.83	.0728	-.41	3.63
.32	6.18	.0905	-.42	3.70
.37	6.18	.0587	-.42	3.68

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.82	7.57	.1226	-.56	3.42	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.78	7.53	.6640	-.59	3.41	.4636	.1216	.0835	.1121
24	.70	7.55	.6439	-.57	3.39	.4311	.1193	.1088	.1077
36	.64	7.57	.5755	-.59	3.40	.2513	.1276	.0855	.0903
48	.56	7.53	.5560	-.59	3.41	.2295	.1304	.1016	.0870
60	.48	7.51	.5003	-.61	3.38	.1155	.1375	.0666	.0696
72	.38	7.49	.4695	-.62	3.36	.1109	.1381	.0768	.1115

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.13	-.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.40	5.66	.0798	-.50	3.03
.46	5.79	.0574	-.52	3.08
.53	6.19	.0877	-.53	3.31
.58	6.29	.0781	-.54	3.32
.64	6.56	.1039	-.55	3.39
.72	6.68	.0935	-.55	3.39

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.62	8.32	.1246	-.61	3.35	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.58	8.29	.7819	-.61	3.35	.5143	.1268	.0958	.1162
24	1.52	8.33	.7257	-.62	3.36	.4024	.1333	.0984	.0984
36	1.45	8.35	.6561	-.62	3.37	.2431	.1409	.0698	.0748
48	1.39	8.29	.6445	-.61	3.37	.1956	.1401	.0740	.0696
60	1.34	8.25	.5914	-.63	3.38	.1038	.1476	.0490	.0526
72	1.30	8.23	.5406	-.64	3.39	.0682	.1461	.0533	.0828

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.01	-.54

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.18	5.19	.0767	-.58	2.87
1.25	5.73	.0835	-.59	3.07
1.33	6.28	.1135	-.60	3.25
1.37	6.36	.1079	-.60	3.28
1.41	6.71	.1237	-.61	3.33
1.47	7.00	.1139	-.61	3.34

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.04	9.42	.1066	-.62	3.65	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	2.01	9.38	.8223	-.62	3.64	.4520	.1078	.0919	.1438
24	1.96	9.39	.7720	-.60	3.67	.4345	.1167	.0570	.1261
36	1.92	9.38	.7006	-.62	3.67	.2412	.1202	.0569	.1441
48	1.84	9.33	.6691	-.61	3.68	.2355	.1206	.0259	.0970
60	1.76	9.29	.6234	-.63	3.69	.0819	.1247	.0270	.0804
72	1.67	9.27	.5638	-.63	3.69	.0729	.1265	.0000	.0584

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.41	-.56

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.56	5.33	.0126	-.61	3.25
1.62	5.98	.0821	-.60	3.28
1.70	6.70	.0760	-.61	3.54
1.76	7.00	.1183	-.61	3.54
1.83	7.37	.1149	-.62	3.63
1.89	7.78	.1305	-.62	3.64

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3	1/55 - 12/70	0	90.0	.07	3.20	-.2107	.00	3.57	930
3	1/55 - 12/70	1	90.0	3.18	7.05	.0096	1.64	6.24	930
3	1/56 - 12/70	2	90.0	7.28	7.30	.0412	1.31	6.13	930
3	1/56 - 12/70	3	90.0	10.87	8.27	.0818	1.28	6.64	930
3	1/56 - 12/70	4	90.0	14.56	9.28	.0903	1.08	7.35	930
3	1/56 - 12/70	5	90.0	18.59	10.23	.1566	1.12	7.88	930
3	1/56 - 12/70	6	90.0	22.67	11.10	.1958	1.45	8.66	930
3	1/56 - 12/70	7	90.0	26.54	12.07	.2262	1.75	9.64	930
3	1/56 - 12/70	8	90.0	30.26	13.06	.2149	1.88	10.45	930
3	1/56 - 12/70	9	90.0	34.12	14.26	.1757	1.76	12.13	930
3	1/56 - 12/70	10	90.0	38.06	15.53	.1485	1.75	13.59	930
3	1/56 - 12/70	11	90.0	41.75	15.95	.1332	1.47	15.24	930
3	1/56 - 12/70	12	90.0	44.58	15.38	.1701	1.53	14.81	930
3	1/56 - 12/70	13	90.0	44.61	13.79	.1882	1.66	13.10	930
3	1/56 - 12/70	14	90.0	41.24	12.35	.1337	1.42	10.43	930
3	1/56 - 12/70	15	90.0	36.18	10.66	.1018	1.39	9.08	930
3	1/56 - 12/70	16	90.0	30.54	9.31	.0516	1.15	7.78	930
3	1/56 - 12/70	17	90.0	24.31	8.46	.0734	1.22	6.85	930
3	1/56 - 12/70	18	90.0	17.64	7.69	.0998	.82	5.64	930
3	1/56 - 12/70	19	90.0	11.16	6.97	.1247	.49	4.60	930
3	1/56 - 12/70	20	90.0	6.66	6.55	.1189	.22	3.97	930
3	1/56 - 12/70	21	90.0	3.71	6.21	.0719	-.10	3.61	930
3	1/56 - 12/70	22	90.0	2.07	6.31	.0503	-.14	3.67	930
3	1/56 - 12/70	23	90.0	.83	6.43	.0543	-.28	3.59	930
3	1/56 - 12/70	24	90.0	.53	6.81	.0817	-.43	3.71	930
3	1/56 - 12/70	25	90.0	.82	7.57	.1226	-.56	3.42	930
3	1/56 - 12/70	26	90.0	1.62	8.32	.1246	-.61	3.35	930
3	1/56 - 12/70	27	90.0	2.04	9.42	.1066	-.62	3.65	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.08	3.18	-.1579	.47	3.14	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.10	3.17	.3869	.49	3.12	.4599	-.1629	.2047	-.2686
24	-1.11	3.13	.3944	.49	3.10	.2597	-.1660	.1833	-.3591
36	-1.14	3.11	.0509	.51	3.10	.0143	-.1700	.2010	-.1846
48	-1.14	3.10	.2207	.52	3.09	-.0461	-.1670	.0541	-.1676
60	-1.16	3.09	.0271	.52	3.09	-.1031	-.1690	.0816	-.0552
72	-1.15	3.09	.2084	.52	3.07	-.0578	-.1640	.0025	-.1026

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.07	.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.06	2.85	-.1759	.47	2.64
-1.06	2.76	-.1748	.47	2.94
-1.07	3.12	-.1657	.48	3.07
-1.06	3.07	-.1813	.48	3.13
-1.08	3.17	-.1663	.48	3.11
-1.06	3.10	-.1668	.47	3.13

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.96	6.56	-.0311	1.20	5.26	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.94	6.51	.7090	1.19	5.24	.6002	-.0381	.2405	-.3472
24	.92	6.44	.4487	1.19	5.20	.3246	-.0422	.2940	-.4329
36	.89	6.38	.2233	1.18	5.19	.0633	-.0461	.1978	-.3439
48	.86	6.33	.1625	1.19	5.15	-.0249	-.0447	.1068	-.1993
60	.84	6.30	.1481	1.19	5.16	-.0385	-.0342	.0648	-.1239
72	.87	6.32	.1755	1.20	5.11	-.0388	-.0328	.0288	-.0914

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.89	1.20

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.92	4.12	-.0132	1.19	3.97
.94	5.20	-.0328	1.20	4.70
.96	6.91	-.0570	1.20	5.14
.96	6.35	-.0544	1.20	5.23
.97	6.44	-.0460	1.20	5.24
.97	6.44	-.0402	1.20	5.25

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.65	7.14	.0651	.16	5.17	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.62	7.06	.7492	.12	5.17	.6288	.0586	.2764	-.2028
24	3.57	7.00	.5646	.10	5.14	.3649	.0544	.2923	-.2958
36	3.55	6.93	.3805	.08	5.11	.1314	.0496	.2270	-.2625
48	3.50	6.88	.3048	.07	5.09	.0306	.0477	.1451	-.1918
60	3.48	6.83	.2523	.10	5.08	-.0047	.0578	.1008	-.1005
72	3.48	6.83	.2460	.09	5.06	-.0213	.0574	.0488	-.0829

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.46	.19

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.50	4.39	.0213	.17	3.83
3.54	5.41	.0213	.17	4.61
3.57	6.29	.0148	.15	5.00
3.60	6.64	.0280	.16	5.12
3.63	6.86	.0402	.16	5.15
3.63	6.88	.0527	.15	5.17

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.04	8.04	.0509	-.82	5.97	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.99	7.99	.8105	-.89	5.97	.6693	.0530	.2290	-.1786
24	5.91	7.94	.6312	-.93	5.95	.4152	.0493	.2621	-.2572
36	5.86	7.86	.4773	-.97	5.92	.2227	.0465	.2182	-.2241
48	5.78	7.80	.3850	-.98	5.90	.1403	.0423	.1490	-.1765
60	5.72	7.73	.3395	-.94	5.87	.0765	.0502	.1061	-.1324
72	5.70	7.73	.3200	-.93	5.83	.0422	.0487	.0666	-.1134

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.91	-.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.92	4.36	.0289	-.70	4.28
5.95	5.79	.0028	-.73	5.23
5.98	6.78	-.0010	-.75	5.68
6.02	7.26	.0219	-.77	5.85
6.06	7.47	.0277	-.79	5.92
6.07	7.55	.0370	-.80	5.95

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.60	8.74	.0932	-1.40	6.56	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	8.52	8.70	.8334	-1.48	6.55	.6774	.0935	.2339	-.1302
24	8.44	8.66	.6790	-1.48	6.55	.4400	.0903	.2388	-.1880
36	8.35	8.61	.5412	-1.50	6.50	.2880	.0853	.1901	-.1958
48	8.24	8.56	.4631	-1.53	6.47	.1673	.0783	.1336	-.1648
60	8.18	8.50	.4086	-1.46	6.42	.0993	.0772	.0788	-.1273
72	8.15	8.48	.3791	-1.42	6.42	.0771	.0760	.0567	-.1101

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.44	-1.12

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.43	4.47	.0982	-1.18	4.69
8.48	6.03	.0600	-1.25	5.74
8.52	7.04	.0745	-1.29	6.19
8.58	7.54	.0746	-1.32	6.42
8.63	7.85	.0851	-1.36	6.51
8.66	7.99	.0899	-1.37	6.53

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
16.79	11.65	.1917	-2.27	6.02	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	16.71	11.65	.8749	-2.30	8.03	.6886	.1976	.2559	.0759
24	16.49	11.62	.7590	-2.36	7.97	.5065	.1898	.2281	-.0179
36	16.28	11.58	.6616	-2.40	7.95	.3387	.1787	.1599	-.0768
48	16.14	11.50	.5883	-2.46	7.85	.2480	.1732	.0951	-.0844
60	16.05	11.41	.5272	-2.43	7.84	.2193	.1658	.0511	-.0725
72	16.00	11.36	.4744	-2.41	7.82	.2185	.1618	.0282	-.0626

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.60	-2.07

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.66	5.52	.0950	-2.13	5.73
16.81	7.34	.1797	-2.12	6.83
16.92	8.42	.2193	-2.14	7.50
16.97	9.16	.2369	-2.16	7.75
17.02	9.72	.2451	-2.19	7.82
17.02	10.12	.2464	-2.20	7.82

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
19.71	12.80	.1907	-2.69	8.76	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	19.59	12.79	.8573	-2.71	8.76	.7072	.1918	.2597	.0773
24	19.35	12.77	.7390	-2.77	8.73	.5300	.1902	.2421	.0080
36	19.15	12.72	.6385	-2.78	8.71	.3669	.1833	.1853	-.0446
48	18.95	12.65	.5669	-2.82	8.63	.2636	.1733	.1217	-.0561
60	18.86	12.56	.5041	-2.78	8.61	.2274	.1680	.0593	-.0480
72	18.80	12.49	.4500	-2.74	8.61	.2075	.1655	.0172	-.0509

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
19.58	-2.52

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
19.67	6.49	.0780	-2.56	6.10
19.83	8.45	.1420	-2.54	7.32
19.93	9.62	.1847	-2.56	8.08
20.01	10.35	.2061	-2.58	8.43
20.04	10.92	.2294	-2.62	8.53
20.04	11.31	.2422	-2.65	8.57

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
22.54	14.47	.2126	-3.06	10.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	22.39	14.44	.8614	-3.08	10.00	.7113	.2131	.2728	.1092
24	22.14	14.39	.7364	-3.13	9.96	.5017	.2137	.2628	.0390
36	21.91	14.33	.6393	-3.16	9.95	.3452	.2091	.2129	-.0164
48	21.68	14.26	.5582	-3.20	9.89	.2484	.2005	.1407	-.0283
60	21.56	14.18	.5007	-3.15	9.89	.2300	.1955	.0758	-.0173
72	21.48	14.09	.4508	-3.11	9.88	.2008	.1916	.0179	-.0136

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
22.32	-2.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
22.44	7.27	.0821	-2.90	6.92
22.62	9.63	.1314	-2.90	8.50
22.74	10.90	.1770	-2.91	9.27
22.84	11.82	.2110	-2.93	9.64
22.89	12.41	.2403	-2.97	9.72
22.90	12.83	.2591	-3.01	9.79

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
25.57	15.70	.2638	-3.69	11.49	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	25.41	15.62	.8665	-3.76	11.49	.7293	.2638	.2968	.1711
24	25.12	15.57	.7476	-3.79	11.44	.5372	.2609	.2695	.0946
36	24.87	15.55	.6477	-3.83	11.38	.3819	.2598	.2063	.0471
48	24.69	15.47	.5727	-3.91	11.28	.2856	.2571	.1302	.0271
60	24.53	15.37	.5168	-3.92	11.28	.2303	.2521	.0570	.0201
72	24.42	15.27	.4607	-3.88	11.26	.2077	.2461	.0049	.0215

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.32	-3.37

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
25.45	7.78	.1398	-3.42	7.77
25.66	10.30	.2062	-3.45	9.57
25.80	11.80	.2506	-3.48	10.55
25.86	12.72	.2859	-3.51	11.00
25.92	13.32	.3145	-3.56	11.19
25.95	13.86	.3267	-3.60	11.23

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
28.80	16.91	.2498	-4.35	12.98	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	28.66	16.86	.8695	-4.43	12.99	.7316	.2512	.2688	.1894
24	28.35	16.76	.7622	-4.47	12.92	.5346	.2504	.2348	.1401
36	28.10	16.67	.6723	-4.50	12.84	.3951	.2451	.1764	.1067
48	27.88	16.59	.5945	-4.54	12.75	.3069	.2391	.1051	.0878
60	27.76	16.45	.5242	-4.54	12.81	.2311	.2317	.0364	.0665
72	27.64	16.30	.4758	-4.51	12.80	.1986	.2236	-.0233	.0681

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
28.59	-4.06

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
28.73	8.33	.1102	-4.09	8.77
28.95	10.91	.1787	-4.12	10.88
29.10	12.47	.2267	-4.15	11.87
29.21	13.56	.2668	-4.18	12.34
29.22	14.36	.2948	-4.25	12.62
29.26	14.85	.3133	-4.31	12.68

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
31.91	17.34	.2684	-4.73	13.94	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	31.72	17.27	.8848	-4.83	14.00	.7537	.2669	.2625	.2206
24	31.38	17.17	.7857	-4.93	13.95	.5733	.2636	.2242	.1735
36	31.13	17.12	.6906	-5.02	13.89	.4332	.2597	.1631	.1365
48	30.85	17.02	.6168	-5.06	13.79	.3302	.2502	.0966	.1225
60	30.67	16.86	.5474	-5.08	13.82	.2616	.2406	.0381	.1002
72	30.52	16.71	.4960	-5.06	13.79	.2181	.2288	-.0138	.0887

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
31.73	-4.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
31.91	8.07	.1563	-4.60	9.12
32.18	10.71	.2199	-4.56	11.38
32.31	12.51	.2675	-4.56	12.55
32.45	13.63	.2954	-4.59	13.16
32.49	14.50	.3173	-4.64	13.45
32.52	15.05	.3325	-4.71	13.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
33.91	16.46	.3013	-4.76	13.14	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	33.68	16.39	.8953	-4.89	13.24	.7903	.2953	.2855	.2592
24	33.33	16.33	.7968	-5.03	13.22	.6065	.2937	.2502	.2103
36	33.02	16.26	.7000	-5.08	13.16	.4471	.2917	.1899	.1653
48	32.78	16.14	.6387	-5.14	13.10	.3471	.2836	.1170	.1466
60	32.57	16.02	.5784	-5.13	13.11	.2646	.2764	.0625	.1386
72	32.43	15.93	.5246	-5.12	13.07	.2337	.2685	.0253	.1273

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
33.71	-4.75

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
33.94	7.33	.1828	-4.65	8.02
34.21	9.94	.2423	-4.58	10.40
34.39	11.74	.2909	-4.59	11.73
34.51	12.65	.3308	-4.61	12.32
34.58	13.42	.3444	-4.67	12.68
34.60	14.01	.3523	-4.71	12.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
32.07	14.38	.3158	-4.34	11.44	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	31.85	14.33	.8711	-4.44	11.54	.8000	.3113	.3166	.2624
24	31.57	14.32	.7799	-4.55	11.55	.6357	.3117	.2840	.2077
36	31.31	14.23	.6936	-4.64	11.52	.4749	.3133	.2212	.1649
48	31.18	14.19	.6198	-4.73	11.47	.3608	.3092	.1601	.1197
60	31.05	14.10	.5537	-4.73	11.47	.2746	.3036	.1092	.1114
72	30.96	13.96	.4999	-4.74	11.43	.2221	.2961	.0509	.0970

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
31.89	-4.30

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
32.10	7.06	.1600	-4.24	6.81
32.32	8.99	.2418	-4.17	8.77
32.47	10.33	.2952	-4.16	10.03
32.50	11.23	.3318	-4.16	10.65
32.53	11.95	.3387	-4.21	10.99
32.54	12.43	.3583	-4.26	11.15

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
28.08	12.04	.2965	-3.47	9.14	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	27.88	11.92	.8572	-3.55	9.17	.8077	.2910	.3285	.2564
24	27.65	11.86	.7825	-3.68	9.18	.6575	.2893	.3111	.1943
35	27.41	11.76	.6939	-3.77	9.17	.5146	.2986	.2628	.1455
48	27.25	11.69	.6290	-3.87	9.16	.4053	.2879	.2068	.1068
60	27.17	11.59	.5467	-3.90	9.17	.3212	.2877	.1508	.0883
72	27.06	11.51	.4851	-3.90	9.16	.2529	.2852	.0928	.0753

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
28.03	-3.39

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
28.21	6.20	.0316	-3.33	5.32
28.36	7.49	.1578	-3.26	6.79
28.50	8.64	.2303	-3.23	7.76
28.55	9.32	.2764	-3.23	8.31
28.54	10.05	.2980	-3.28	8.64
28.55	10.50	.3165	-3.33	8.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
23.03	10.26	.2568	-3.06	7.96	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	22.87	10.12	.8364	-3.15	8.01	.7936	.2633	.3144	.1965
24	22.68	10.04	.7677	-3.21	8.01	.6448	.2716	.3066	.1523
36	22.48	9.95	.6749	-3.28	8.02	.4931	.2792	.2833	.1160
48	22.32	9.90	.6028	-3.33	8.00	.3729	.2808	.2211	.1132
60	22.24	9.84	.5257	-3.35	8.01	.2795	.2784	.1783	.1067
72	22.15	9.73	.4721	-3.34	8.05	.2205	.2767	.1357	.0890

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
22.98	-2.97

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
23.12	5.62	.0363	-2.91	4.77
23.25	6.55	.1157	-2.88	5.99
23.36	7.53	.1559	-2.86	6.82
23.42	8.16	.1945	-2.88	7.33
23.42	8.72	.2132	-2.90	7.60
23.43	9.03	.2347	-2.94	7.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.13	9.69	.1393	-1.70	6.83	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	11.03	9.67	.8375	-1.75	6.81	.6751	.1380	.2541	-.0526
24	10.88	9.61	.7140	-1.78	6.78	.4694	.1345	.2346	-.1253
36	10.74	9.57	.5983	-1.82	6.80	.3000	.1316	.1840	-.1640
48	10.63	9.52	.5247	-1.85	6.76	.1915	.1251	.1252	-.1453
60	10.56	9.50	.4687	-1.77	6.73	.1277	.1211	.0627	-.1311
72	10.55	9.45	.4369	-1.72	6.73	.1033	.1164	.0446	-.1017

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.03	-1.33

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.03	5.03	.0969	-1.42	4.92
11.10	6.43	.1228	-1.48	5.92
11.14	7.40	.1354	-1.53	6.44
11.20	7.99	.1384	-1.58	6.67
11.24	8.36	.1554	-1.63	6.77
11.27	8.59	.1532	-1.65	6.79

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.90	10.63	.1611	-1.93	7.29	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	13.81	10.62	.8518	-1.98	7.30	.6961	.1629	.2560	.0121
24	13.61	10.56	.7353	-2.01	7.30	.5042	.1600	.2328	-.0830
36	13.48	10.52	.6361	-2.05	7.33	.3136	.1559	.1735	-.1329
48	13.34	10.45	.5761	-2.10	7.27	.2065	.1503	.1121	-.1195
60	13.26	10.43	.5073	-2.05	7.25	.1680	.1415	.0652	-.1065
72	13.22	10.39	.4589	-2.03	7.23	.1759	.1349	.0369	-.0915

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
13.75	-1.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
13.79	5.40	.0790	-1.72	5.13
13.90	6.87	.1567	-1.75	6.20
13.94	7.81	.1719	-1.79	6.87
14.01	8.40	.1772	-1.82	7.11
14.06	8.95	.1891	-1.85	7.18
14.07	9.30	.1984	-1.86	7.18

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
17.30	9.19	.2746	-2.45	6.71	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	17.10	9.10	.7927	-2.51	6.74	.7374	.2801	.3815	.1998
24	16.92	9.02	.6880	-2.54	6.74	.5636	.2917	.4052	.1903
36	16.77	8.94	.6036	-2.60	6.71	.4116	.3003	.3695	.1716
48	16.62	8.91	.5459	-2.65	6.66	.3205	.3032	.3203	.1529
60	16.5:	8.82	.4858	-2.67	6.69	.2396	.2967	.2722	.1148
72	16.42	8.76	.4340	-2.68	6.69	.1789	.2929	.2248	.1173

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
17.33	-2.36

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.49	5.60	-.0318	-2.32	4.37
17.59	6.67	.0016	-2.28	5.28
17.65	7.33	.0786	-2.26	5.87
17.70	7.70	.1338	-2.25	6.16
17.71	8.03	.1781	-2.26	6.36
17.71	8.28	.2046	-2.28	6.49

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.91	7.85	.2764	-2.03	5.23	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	10.76	7.76	.7655	-2.04	5.26	.7087	.2867	.3799	.1882
24	10.61	7.71	.6752	-2.07	5.24	.5419	.3041	.4197	.1598
36	10.49	7.67	.6043	-2.11	5.19	.3768	.3143	.4144	.1328
48	10.35	7.63	.5351	-2.11	5.16	.2569	.3178	.3614	.1353
60	10.23	7.53	.4855	-2.14	5.14	.1840	.3130	.3244	.1281
72	10.14	7.44	.4675	-2.15	5.12	.1419	.3083	.2610	.1032

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.01	-1.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.11	5.04	.0138	-1.94	3.56
11.18	5.78	.0236	-1.90	4.17
11.23	6.24	.0601	-1.87	4.56
11.27	6.62	.1140	-1.86	4.81
11.31	6.86	.1471	-1.85	4.93
11.34	6.93	.1848	-1.87	5.04

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.31	7.02	.2816	-1.38	4.22	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.19	6.95	.6717	-1.40	4.22	.5725	.2895	.3212	.1771
24	5.09	6.89	.6224	-1.40	4.21	.4633	.3043	.3266	.1441
36	4.97	6.82	.5662	-1.44	4.13	.2905	.3135	.3553	.1617
48	4.87	6.76	.5245	-1.44	4.10	.2341	.3250	.3602	.1636
60	4.81	6.68	.4604	-1.46	4.08	.1053	.3215	.3383	.1564
72	4.79	6.61	.4457	-1.47	4.09	.0967	.3182	.2861	.1409

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.39	-1.26

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.44	5.20	.1260	-1.29	3.39
5.49	5.49	.1429	-1.29	3.65
5.55	5.79	.1108	-1.27	3.86
5.59	5.98	.1190	-1.26	3.90
5.59	6.23	.1507	-1.26	3.97
5.59	6.29	.1797	-1.28	4.04

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.67	6.07	.2286	-1.05	3.87	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.59	6.03	.6877	-1.05	3.86	.4477	.2322	.3052	.1542
24	1.51	6.01	.6256	-1.08	3.84	.4059	.2349	.3189	.1466
36	1.46	5.98	.5413	-1.10	3.82	.2075	.2335	.2706	.1415
48	1.41	5.94	.5198	-1.10	3.81	.1973	.2322	.2575	.1148
60	1.38	5.91	.4752	-1.11	3.79	.1183	.2221	.2555	.0977
72	1.33	5.84	.4444	-1.11	3.78	.1251	.2207	.2239	.0628

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.80	-.86

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.82	4.41	.0331	-.94	3.37
1.85	4.74	.0423	-.92	3.43
1.87	5.11	.0998	-.96	3.69
1.88	5.19	.1171	-.95	3.70
1.88	5.34	.1268	-.96	3.74
1.88	5.44	.1516	-.96	3.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.59	5.24	.1737	-1.06	3.25	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.63	5.24	.6353	-1.08	3.23	.2572	.1711	.1484	.1171
24	-.70	5.23	.6019	-1.08	3.23	.3772	.1738	.1193	.1237
36	-.75	5.20	.5384	-1.11	3.22	.0980	.1774	.1124	.1194
48	-.79	5.16	.4578	-1.10	3.22	.1898	.1689	.1443	.0684
60	-.81	5.15	.3665	-1.10	3.18	.0070	.1657	.1182	.0906
72	-.83	5.10	.3367	-1.08	3.18	.0254	.1517	.1046	.0309

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.58	-.99

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.56	4.04	.1043	-1.04	3.12
-.52	4.18	.1285	-1.02	3.01
-.50	4.41	.1333	-1.04	3.22
-.50	4.66	.1259	-1.03	3.17
-.50	4.87	.1416	-1.05	3.23
-.51	4.93	.1481	-1.05	3.24

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.01	4.89	.0979	-.80	3.03	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.01	4.88	.6668	-.80	3.04	.2639	.1011	.0704	.1493
24	-2.05	4.87	.6243	-.77	3.03	.3839	.1021	.0930	.0802
36	-2.07	4.85	.5380	-.78	3.01	.1280	.0998	.0811	.0800
48	-2.10	4.83	.4627	-.76	2.99	.2014	.1020	.1137	.0970
60	-2.14	4.82	.3922	-.76	3.01	-.0315	.0956	.0495	.0501
72	-2.18	4.79	.3271	-.75	3.01	.0419	.0957	.0524	.0735

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.08	-.75

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.05	3.62	.0416	-.79	2.92
-2.03	3.82	.0466	-.79	2.79
-2.01	4.12	.0612	-.79	3.00
-2.00	4.32	.0414	-.79	2.96
-1.98	4.49	.0859	-.80	3.03
-1.98	4.61	.0840	-.79	3.03

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.73	4.92	.0222	-.72	2.94	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.78	4.91	.6293	-.73	2.92	.3018	.0264	-.0018	.1171
24	-2.83	4.82	.6113	-.72	2.90	.3794	.0420	.0396	.1013
36	-2.84	4.78	.5105	-.70	2.88	.1304	.0458	-.0279	.1303
48	-2.86	4.77	.4548	-.67	2.86	.1347	.0476	.0203	.1082
60	-2.87	4.76	.3467	-.65	2.85	-.0281	.0551	-.0075	.0436
72	-2.89	4.72	.3037	-.62	2.84	-.0705	.0542	.0119	.0290

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.81	-.75

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.75	3.79	-.0096	-.73	2.80
-2.72	3.88	-.0420	-.74	2.72
-2.72	4.20	.0263	-.73	2.92
-2.72	4.36	.0016	-.74	2.92
-2.71	4.61	.0272	-.72	2.94
-2.71	4.69	.0205	-.71	2.93

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.87	5.27	.0941	-.75	2.97	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.93	5.27	.7036	-.75	2.94	.3301	.0986	.0574	.1610
24	-2.97	5.22	.6460	-.74	2.93	.3543	.0975	.0744	.1087
36	-2.99	5.21	.5552	-.70	2.91	.1201	.0999	.0477	.1545
48	-3.01	5.17	.4977	-.65	2.88	.1009	.0896	.0298	.1314
60	-3.00	5.12	.3735	-.65	2.88	-.0084	.0892	-.0296	.1269
72	-3.02	5.11	.3068	-.59	2.90	-.0425	.0877	.0055	.0252

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.87	-.78

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-2.83	3.71	.0356	-.76	2.81
24	-2.81	4.01	.0421	-.76	2.78
36	-2.82	4.35	.0684	-.75	2.95
48	-2.82	4.54	.0823	-.76	2.96
60	-2.84	4.86	.1145	-.75	2.97
72	-2.82	5.01	.0971	-.74	2.97

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.61	5.85	.1895	-.78	3.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.65	5.86	.7166	-.77	3.00	.3562	.1875	.1388	.2101
24	-2.66	5.82	.6793	-.74	2.99	.3075	.1839	.0759	.1695
36	-2.70	5.78	.5763	-.72	2.98	.1057	.1775	.0482	.1635
48	-2.72	5.73	.5316	-.70	2.97	.0889	.1737	-.0046	.1463
60	-2.74	5.69	.3966	-.70	2.97	-.0355	.1615	-.0365	.1225
72	-2.73	5.65	.3445	-.65	2.98	-.0653	.1589	-.0305	.0413

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.57	-.85

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.57	4.06	.0993	-.81	2.79
-2.56	4.29	.1786	-.81	2.85
-2.55	4.77	.1921	-.79	2.98
-2.55	4.95	.2222	-.80	2.98
-2.56	5.36	.2249	-.78	2.99
-2.55	5.49	.2127	-.77	2.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.18	6.71	.1775	-.73	2.97	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.25	6.70	.7869	-.74	2.97	.3350	.1742	.1484	.1984
24	-2.27	6.64	.7436	-.72	2.94	.3168	.1644	.0926	.1098
36	-2.31	6.56	.6447	-.71	2.94	.0877	.1594	.0870	.1235
48	-2.33	6.52	.6089	-.68	2.95	.0768	.1590	.0363	.0859
60	-2.39	6.47	.5032	-.65	2.93	-.0814	.1576	-.0059	.0652
72	-2.40	6.44	.4469	-.63	2.94	-.0362	.1532	-.0223	.0226

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.20	-.74

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.15	4.12	.0716	-.73	2.79
-2.13	4.49	.1776	-.73	2.82
-2.11	5.13	.1579	-.73	2.95
-2.10	5.32	.1975	-.73	2.96
-2.08	5.80	.2082	-.72	2.96
-2.08	5.99	.2083	-.73	2.97

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.36	7.23	.0995	-.77	3.15	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.43	7.21	.8264	-.77	3.14	.3787	.0988	.1412	.1398
24	-1.48	7.17	.7854	-.78	3.11	.3402	.0895	.1017	.0757
36	-1.55	7.11	.6958	-.76	3.09	.1248	.0886	.1221	.0901
48	-1.59	7.07	.6514	-.75	3.08	.0852	.0898	.0654	.0365
60	-1.65	7.02	.5526	-.70	3.06	-.0387	.0946	.0811	.0602
72	-1.68	6.99	.5009	-.69	3.06	.0058	.1000	.0267	.0089

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.20	-.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.17	4.05	-.0748	-.76	2.90
-1.14	4.48	.0308	-.76	2.96
-1.11	5.19	.0160	-.75	3.11
-1.10	5.48	.0777	-.76	3.14
-1.10	6.03	.0664	-.75	3.14
-1.10	6.25	.0998	-.76	3.15

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4	1/56 - 12/70	0	90.0	-1.08	3.18	-.1579	.47	3.14	900
4	1/56 - 12/70	1	90.0	.96	6.56	-.0311	1.20	5.26	900
4	1/56 - 12/70	2	90.0	3.65	7.14	.0651	.16	5.17	900
4	1/56 - 12/70	3	90.0	6.04	8.04	.0509	-.82	5.97	900
4	1/56 - 12/70	4	90.0	8.60	8.74	.0932	-1.40	6.56	900
4	1/56 - 12/70	5	90.0	11.13	9.69	.1393	-1.70	6.83	900
4	1/56 - 12/70	6	90.0	13.90	10.63	.1611	-1.93	7.29	900
4	1/56 - 12/70	7	90.0	16.79	11.65	.1917	-2.27	8.02	900
4	1/56 - 12/70	8	90.0	19.71	12.80	.1907	-2.69	8.76	900
4	1/56 - 12/70	9	90.0	22.54	14.47	.2126	-3.06	10.00	900
4	1/56 - 12/70	10	90.0	25.57	15.70	.2638	-3.69	11.[illegible]	900
4	1/56 - 12/70	11	90.0	28.80	16.91	.2498	-4.35	12.[illegible]	900
4	1/56 - 12/70	12	90.0	31.91	17.34	.2684	-4.73	13.[illegible]	900
4	1/56 - 12/70	13	90.0	33.91	16.46	.3013	-4.76	13.14	900
4	1/56 - 12/70	14	90.0	32.07	14.38	.3158	-4.34	11.44	900
4	1/56 - 12/70	15	90.0	28.08	12.04	.2965	-3.47	9.14	900
4	1/56 - 12/70	16	90.0	23.03	10.26	.2568	-3.06	7.96	900
4	1/56 - 12/70	17	90.0	17.30	9.19	.2746	-2.45	6.71	900
4	1/56 - 12/70	18	90.0	10.91	7.85	.2764	-2.03	5.23	900
4	1/56 - 12/70	19	90.0	5.31	7.02	.2816	-1.38	4.22	900
4	1/56 - 12/70	20	90.0	1.67	6.07	.2286	-1.05	3.87	900
4	1/56 - 12/70	21	90.0	-.59	5.24	.1737	-1.06	3.25	900
4	1/56 - 12/70	22	90.0	-2.01	4.89	.0979	-.80	3.03	900
4	1/56 - 12/70	23	90.0	-2.73	4.92	.0222	-.72	2.94	900
4	1/56 - 12/70	24	90.0	-2.87	5.27	.0941	-.75	2.97	900
4	1/56 - 12/70	25	90.0	-2.61	5.85	.1895	-.78	3.00	900
4	1/56 - 12/70	26	90.0	-2.18	6.71	.1775	-.73	2.97	900
4	1/56 - 12/70	27	90.0	-1.36	7.23	.0995	-.77	3.15	900

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.67	2.89	-.0657	.53	2.55	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.68	2.91	.3506	.52	2.55	.4992	-.0632	.1835	-.0273
24	-1.68	2.89	.5448	.52	2.54	.4073	-.0583	.1206	-.1595
36	-1.69	2.90	.1173	.52	2.54	.1924	-.0525	.1891	-.0772
48	-1.70	2.89	.2710	.51	2.55	.1367	-.0565	.0996	-.1348
60	-1.70	2.89	-.0568	.51	2.55	.0782	-.0601	.0908	-.0777
72	-1.72	2.88	.1380	.51	2.56	.0901	-.0590	-.0160	-.1004

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.62	.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.65	2.70	-.1621	.58	2.14
-1.65	2.39	-.1048	.57	2.30
-1.67	2.86	-.0772	.56	2.45
-1.66	2.75	-.0805	.55	2.51
-1.68	2.87	-.0545	.54	2.53
-1.66	2.85	-.0563	.54	2.54

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.97	5.28	.1271	.94	4.25	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.03	5.27	.7470	.95	4.25	.6343	.1341	.2443	-.0350
24	-1.05	5.27	.5944	.94	4.24	.5158	.1374	.2856	-.0857
36	-1.12	5.30	.3570	.91	4.24	.3112	.1406	.2402	-.1164
48	-1.14	5.27	.2239	.90	4.23	.2501	.1423	.1878	-.0603
60	-1.17	5.25	.0931	.89	4.21	.1782	.1362	.0977	-.0766
72	-1.18	5.23	.0620	.90	4.23	.1500	.1356	.0495	-.0500

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.71	.90

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.71	3.44	.0559	.95	3.22
-.75	4.15	.0593	.98	3.83
-.81	4.85	.1037	1.00	3.95
-.86	5.12	.1144	.99	4.07
-.92	5.24	.1367	.97	4.17
-.93	5.26	.1347	.95	4.20

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.44	5.68	.2731	-.17	4.49	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.38	5.68	.7705	-.16	4.47	.8639	.2767	.3482	.1459
24	.36	5.66	.6514	-.16	4.46	.5422	.2741	.3392	.0789
36	.29	5.65	.4457	-.17	4.44	.3467	.2712	.2914	.0368
48	.29	5.60	.3474	-.15	4.44	.2699	.2760	.2390	.0239
60	.25	5.56	.2158	-.15	4.43	.1664	.2748	.1722	-.0035
72	.23	5.52	.1530	-.12	4.45	.1221	.2777	.1130	-.0298

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.56	-.30

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.59	3.60	.1000	-.23	3.27
.60	4.27	.1630	-.20	3.66
.58	5.06	.2054	-.16	4.11
.56	5.31	.2325	-.16	4.25
.53	5.53	.2563	-.15	4.39
.52	5.60	.2697	-.16	4.44

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.65	6.00	.2818	-.31	4.77	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.61	5.97	.8031	-.28	4.73	.7194	.2866	.3732	.1755
24	1.57	5.97	.6747	-.25	4.69	.5545	.2834	.3443	.0698
36	1.53	5.95	.5143	-.25	4.67	.3780	.2843	.3019	.0319
48	1.52	5.92	.4004	-.22	4.67	.2662	.2879	.2358	.0161
60	1.48	5.89	.2941	-.20	4.68	.1674	.2822	.1922	.0055
72	1.44	5.82	.2097	-.18	4.69	.1231	.2840	.1345	-.0312

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.61	-.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.67	3.56	.0466	-.44	3.21
1.71	4.38	.1691	-.41	3.86
1.73	5.09	.2123	-.37	4.31
1.72	5.46	.2416	-.35	4.53
1.72	5.71	.2531	-.33	4.65
1.73	5.84	.2728	-.32	4.71

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.91	6.50	.2669	-.40	5.27	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	2.86	6.46	.8041	-.33	5.21	.7136	.2695	.3427	.1268
24	2.81	6.41	.6615	-.30	5.16	.5384	.2635	.3295	.0331
36	2.78	6.40	.5147	-.29	5.13	.3836	.2650	.2919	-.0449
48	2.76	6.39	.3944	-.25	5.12	.2679	.2668	.2452	-.0493
60	2.71	6.34	.3017	-.27	5.11	.1592	.2636	.2078	-.0616
72	2.62	6.24	.2211	-.26	5.10	.0993	.2639	.1663	-.0935

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.76	-.52

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.85	3.82	.1287	-.54	3.60
2.91	4.78	.1947	-.52	4.32
2.96	5.44	.2337	-.48	4.75
2.97	5.88	.2381	-.46	4.98
2.98	6.12	.2403	-.42	5.12
3.00	6.25	.2525	-.40	5.18

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.42	6.86	.2637	-.54	5.70	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.36	6.80	.8177	-.49	5.65	.7390	.2618	.3172	.1537
24	4.29	6.77	.6919	-.45	5.62	.5819	.2571	.2994	.0638
36	4.25	6.75	.5525	-.44	5.57	.4044	.2607	.2578	-.0086
48	4.21	6.74	.4278	-.41	5.54	.2997	.2617	.1972	-.0292
60	4.10	6.63	.3174	-.43	5.52	.2081	.2648	.1526	-.0519
72	3.98	6.55	.2268	-.43	5.51	.1379	.2636	.1060	-.0912

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.21	-.88

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.33	3.93	.1237	-.83	3.77
4.43	4.89	.2080	-.79	4.55
4.48	5.61	.2394	-.71	5.14
4.51	6.12	.2571	-.67	5.40
4.54	6.43	.2629	-.61	5.55
4.58	6.59	.2712	-.58	5.63

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.06	7.47	.2556	-.64	6.52	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.67	-.82

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	5.96	7.37	.8113	-.57	6.46	.7666	.2577	.2935	.1733	5.83	4.36	.1190	-.86	4.14
24	5.88	7.34	.6943	-.53	6.41	.6187	.2563	.2584	.0840	5.94	5.32	.2374	-.84	5.08
36	5.80	7.28	.5653	-.51	6.35	.4524	.2661	.1971	.0236	6.03	6.08	.2749	-.79	5.79
48	5.73	7.26	.4597	-.47	6.32	.3305	.2666	.1421	-.0332	6.10	6.52	.2910	-.76	6.14
60	5.63	7.13	.3496	-.48	6.29	.2220	.2764	.0986	-.0643	6.15	6.88	.2840	-.72	6.35
72	5.51	7.04	.2576	-.47	6.29	.1492	.2787	.0432	-.1177	6.20	7.06	.2916	-.70	6.45

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.76	8.17	.2787	-.60	7.29	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.64	8.05	.8186	-.53	7.27	.7538	.2804	.2990	.2008
24	7.53	7.98	.6945	-.49	7.23	.5927	.2844	.2657	.1416
36	7.48	7.92	.5685	-.47	7.19	.4309	.2878	.1969	.0801
48	7.38	7.86	.4702	-.41	7.17	.3154	.2910	.1487	.0281
60	7.25	7.76	.3718	-.40	7.16	.2048	.2987	.0944	-.0130
72	7.12	7.66	.2850	-.39	7.17	.1535	.3005	.0470	-.0693

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.27	-.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.45	4.69	.1476	-.84	4.73
7.59	5.86	.2192	-.81	5.83
7.66	6.69	.2730	-.76	6.56
7.75	7.15	.2908	-.73	6.91
7.83	7.51	.2976	-.68	7.13
7.89	7.72	.3096	-.67	7.21

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9.43	9.09	.2551	-.44	8.27	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	9.31	8.98	.8226	-.38	8.24	.7502	.2621	.2828	.1909
24	9.21	8.93	.7073	-.32	8.20	.5980	.2663	.2650	.1321
36	9.15	8.90	.5842	-.29	8.14	.4586	.2700	.2123	.0845
48	9.07	8.87	.4857	-.25	8.10	.3490	.2725	.1569	.0272
60	8.93	8.77	.3733	-.22	8.11	.2574	.2767	.1109	.0007
72	8.78	8.66	.2938	-.23	8.13	.2004	.2752	.0620	-.0447

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.82	-.62

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.03	5.16	.1087	-.66	5.42
9.17	6.40	.1781	-.65	6.57
9.26	7.34	.2279	-.62	7.31
9.35	7.88	.2636	-.58	7.73
9.44	8.38	.2696	-.55	7.98
9.51	8.61	.2821	-.52	8.10

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.18	10.03	.2548	-.51	9.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	11.06	9.91	.8111	-.44	9.64	.7703	.2604	.2814	.1844
24	10.94	9.88	.6909	-.35	9.63	.6144	.2642	.2592	.1265
36	10.88	9.85	.5514	-.28	9.56	.4659	.2702	.2055	.0922
48	10.76	9.82	.4461	-.24	9.53	.3598	.2768	.1672	.0512
60	10.64	9.72	.3301	-.20	9.53	.2688	.2794	.1260	-.0072
72	10.48	9.64	.2618	-.19	9.54	.2232	.2796	.0786	-.0381

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
10.43	-.80

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.67	5.86	.1262	-.84	6.11
10.84	7.22	.1926	-.83	7.57
10.95	8.34	.2273	-.78	8.52
11.07	8.94	.2468	-.73	9.00
11.17	9.41	.2642	-.68	9.30
11.24	9.61	.2763	-.65	9.42

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.24	11.44	.2736	-.53	11.11	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	13.08	11.32	.7877	-.42	11.09	.7753	.2840	.2881	.2027
24	12.97	11.29	.6678	-.32	11.08	.6322	.2937	.2647	.1360
36	12.89	11.25	.5331	-.21	11.04	.4901	.3003	.2262	.1043
48	12.73	11.24	.4325	-.15	11.03	.3821	.3100	.1814	.0684
60	12.62	11.14	.3099	-.06	11.06	.2858	.3177	.1512	.0204
72	12.45	11.05	.2475	-.02	11.08	.2506	.3212	.1217	-.0043

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.26	-.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.59	7.04	.1618	-.99	6.98
12.79	8.49	.2332	-.98	8.56
12.93	9.66	.2443	-.94	9.64
13.08	10.28	.2641	-.86	10.24
13.19	10.84	.2731	-.80	10.63
13.27	11.04	.2821	-.76	10.75

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.79	12.68	.3133	-.66	12.65	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	15.63	12.55	.8149	-.49	12.62	.7994	.3242	.3104	.2793
24	15.49	12.52	.6729	-.30	12.59	.6459	.3344	.2898	.2126
36	15.37	12.53	.5473	-.26	12.58	.4982	.3435	.2526	.1724
48	15.22	12.57	.4425	-.20	12.57	.3969	.3540	.2144	.1220
60	15.09	12.51	.3375	-.09	12.57	.3184	.3637	.1913	.0778
72	14.91	12.46	.2545	-.01	12.59	.2614	.3693	.1643	.0278

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.50	-1.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.86	7.35	.1401	-1.32	7.57
15.12	9.38	.2245	-1.28	9.61
15.33	10.61	.2526	-1.20	10.91
15.50	11.36	.2822	-1.11	11.57
15.64	11.92	.2947	-1.05	11.95
15.77	12.23	.3091	-.98	12.18

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.45	13.93	.3365	-1.11	13.86	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	18.26	13.85	.8342	-.92	13.85	.8161	.3430	.3171	.3160
24	18.09	13.84	.7047	-.80	13.79	.6722	.3547	.3023	.2626
36	17.97	13.83	.5909	-.68	13.77	.5446	.3669	.2740	.2230
48	17.85	13.88	.4903	-.60	13.76	.4494	.3780	.2406	.1713
60	17.74	13.86	.3892	-.44	13.80	.3704	.3913	.2144	.1144
72	17.54	13.79	.3049	-.36	13.83	.3156	.3982	.1949	.0591

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.89	-1.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.29	7.67	.1514	-1.76	7.99
17.59	9.88	.2204	-1.76	10.22
17.80	11.24	.2545	-1.71	11.57
17.99	12.14	.2894	-1.64	12.34
18.15	12.82	.3121	-1.59	12.83
18.32	13.24	.3280	-1.53	13.11

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.47	14.07	.3592	-2.26	13.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	20.31	14.03	.8622	-2.04	13.64	.8469	.3660	.3388	.3498
24	20.13	14.02	.7344	-1.93	13.58	.7103	.3743	.3179	.3018
36	20.00	14.01	.6276	-1.84	13.59	.5810	.3855	.2935	.2544
48	19.83	14.06	.5240	-1.74	13.58	.4693	.3950	.2624	.1974
60	19.77	14.04	.4236	-1.60	13.65	.3799	.4063	.2409	.1326
72	19.62	13.99	.3433	-1.51	13.70	.3191	.4125	.2190	.0689

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.98	-2.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
19.31	7.11	.1438	-2.95	7.26
19.60	9.54	.2255	-2.94	9.59
19.82	10.95	.2656	-2.88	11.08
20.03	11.98	.3017	-2.80	12.02
20.18	12.73	.3249	-2.75	12.58
20.34	13.16	.3447	-2.68	12.89

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.05	12.37	.3922	-2.79	11.84	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	19.89	12.33	.8582	-2.63	11.76	.8426	.3966	.3950	.3606
24	19.71	12.33	.7515	-2.53	11.70	.7106	.3956	.3613	.3046
36	19.54	12.33	.6276	-2.45	11.70	.5620	.4051	.3288	.2366
48	19.34	12.28	.5182	-2.38	11.70	.4416	.4171	.2836	.1542
60	19.23	12.24	.4107	-2.32	11.74	.3561	.4271	.2501	.0871
72	19.05	12.16	.3275	-2.27	11.76	.2943	.4332	.2274	.0178

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.78	-3.15

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
19.09	6.35	.1341	-3.30	6.33
19.34	8.16	.2514	-3.30	8.27
19.58	9.63	.3055	-3.24	9.70
19.80	10.55	.3550	-3.16	10.54
19.93	11.22	.3761	-3.10	10.99
20.08	11.57	.3918	-3.03	11.24

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
16.85	10.07	.4204	-3.20	9.42	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	16.71	10.03	.8588	-3.14	9.41	.8317	.4222	.4501	.3550
24	16.54	10.02	.7490	-3.06	9.39	.7075	.4240	.4265	.2784
36	16.39	9.99	.6376	-3.01	9.39	.5575	.4306	.3933	.2080
48	16.22	9.98	.5357	-2.95	9.38	.4353	.4376	.3445	.1350
60	16.07	9.94	.4331	-2.91	9.38	.3364	.4457	.3022	.0803
72	15.89	9.86	.3536	-2.88	9.38	.2709	.4513	.2394	.0283

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
15.87	-3.55

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.13	5.16	.1427	-3.61	5.13
16.36	6.66	.2753	-3.61	6.53
16.55	7.72	.3231	-3.55	7.66
16.72	8.43	.3661	-3.48	8.33
16.85	8.99	.3846	-3.40	8.73
16.96	9.30	.3993	-3.33	8.94

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
12.60	8.24	.3767	-3.11	7.39	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	12.46	8.21	.8367	-3.04	7.33	.8253	.3818	.4438	.2996
24	12.33	8.20	.7526	-3.00	7.31	.6989	.3844	.4419	.2289
36	12.19	8.19	.6425	-2.95	7.30	.5530	.3858	.4214	.1599
48	12.05	8.17	.5472	-2.94	7.29	.4273	.3892	.3692	.1040
60	11.87	8.12	.4729	-2.90	7.29	.3110	.3956	.3202	.0737
72	11.68	8.04	.4204	-2.87	7.26	.2387	.4059	.2793	.0329

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.89	-3.47

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.13	4.51	.0688	-3.52	4.04
12.30	5.40	.1804	-3.48	5.10
12.46	6.27	.2399	-3.42	5.92
12.58	6.83	.2905	-3.32	6.48
12.70	7.19	.3096	-3.23	6.84
12.82	7.38	.3292	-3.16	7.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.80	6.74	.3549	-2.88	5.90	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.67	6.71	.7959	-2.85	5.88	.7368	.3563	.4325	.2574
24	7.55	6.68	.7487	-2.85	5.86	.6547	.3575	.4563	.2307
36	7.43	6.66	.6215	-2.81	5.85	.4897	.3586	.4355	.1644
48	7.28	6.64	.5563	-2.82	5.86	.3746	.3590	.3764	.1340
60	7.14	6.61	.4752	-2.78	5.84	.2658	.3696	.3147	.0715
72	6.99	6.54	.4156	-2.78	5.81	.1881	.3780	.2836	.0298

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.42	-3.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.60	4.08	.0714	-3.09	3.84
7.71	4.46	.0717	-3.05	4.23
7.82	5.26	.1652	-3.00	4.87
7.91	5.58	.2219	-2.93	5.25
7.99	5.88	.2736	-2.88	5.52
8.07	6.06	.2900	-2.82	5.63

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.34	5.66	.2733	-2.35	4.57	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.24	5.59	.7169	-2.34	4.54	.6422	.2677	.3564	.2097
24	3.11	5.57	.7205	-2.32	4.54	.6273	.2637	.3897	.1571
36	3.03	5.55	.5786	-2.30	4.55	.4217	.2642	.3854	.1193
48	2.93	5.54	.5310	-2.28	4.56	.3701	.2594	.3525	.0401
60	2.82	5.54	.4272	-2.25	4.55	.2435	.2571	.3321	.0265
72	2.65	5.47	.3778	-2.23	4.54	.2012	.2685	.2731	-.0448

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.14	-2.50

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.26	3.95	.0141	-2.46	3.39
3.37	3.92	.0215	-2.44	3.39
3.42	4.61	.0880	-2.39	3.93
3.49	4.76	.1538	-2.36	4.07
3.52	5.10	.1740	-2.31	4.24
3.60	5.17	.2186	-2.29	4.35

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.23	4.69	.1905	-1.61	3.56	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.32	4.84	.6889	-1.61	3.55	.3852	.1786	.2668	.1698
24	-.41	4.62	.7182	-1.60	3.57	.5347	.1837	.3203	.0986
36	-.51	4.60	.5841	-1.60	3.59	.2575	.1812	.3115	.0764
48	-.60	4.57	.5465	-1.59	3.58	.3050	.1840	.2978	.0260
60	-.70	4.57	.4294	-1.58	3.58	.1415	.1844	.2590	.0240
72	-.66	4.48	.4125	-1.56	3.56	.1496	.1999	.2367	-.0677

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.28	-1.60

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.20	3.39	-.0148	-1.60	3.21
-.14	3.26	-.0410	-1.59	2.90
-.09	3.81	.0195	-1.57	3.30
-.05	3.91	.0613	-1.55	3.28
-.04	4.23	.0977	-1.54	3.42
.05	4.21	.1255	-1.52	3.44

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.64	4.28	.1699	-1.22	2.90	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.72	4.23	.6512	-1.22	2.90	.1532	.1651	.1180	.0845
24	-2.81	4.22	.6952	-1.21	2.91	.4429	.1687	.1924	.0600
36	-2.90	4.21	.5616	-1.20	2.91	.0433	.1608	.1415	.0090
48	-3.00	4.21	.5377	-1.20	2.91	.2417	.1689	.1750	-.0175
60	-3.13	4.20	.4267	-1.21	2.89	-.0597	.1660	.1083	-.0571
72	-3.25	4.18	.4056	-1.20	2.89	.0648	.1677	.1224	-.0460

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.58	-1.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.55	3.25	.1289	-1.22	2.85
-2.47	3.07	.0948	-1.22	2.58
-2.45	3.53	.1131	-1.20	2.87
-2.40	3.58	.1238	-1.19	2.79
-2.39	3.83	.1279	-1.18	2.87
-2.34	3.88	.1396	-1.17	2.88

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-4.49	4.11	.0413	-.75	2.59	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-4.59	4.06	.6132	-.78	2.60	.0752	.0312	.0189	.0966
24	-4.70	4.07	.6765	-.76	2.61	.3092	.0315	.0859	.0061
36	-4.78	4.06	.5078	-.76	2.61	-.0330	.0290	.0413	.0685
48	-4.90	4.08	.5456	-.75	2.60	.0925	.0295	.0923	.0301
60	-4.99	4.07	.4194	-.75	2.58	-.1009	.0265	.0473	.0311
72	-5.13	4.06	.4235	-.74	2.56	-.0042	.0315	.0571	.0094

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-4.41	-.74

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-4.38	3.23	.0306	-.75	2.58
-4.30	3.02	-.0173	-.73	2.45
-4.30	3.53	.0258	-.74	2.58
-4.23	3.44	-.0124	-.72	2.56
-4.25	3.73	.0261	-.73	2.57
-4.19	3.72	.0189	-.72	2.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-5.71	4.20	-.0480	-.65	2.66	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-5.83	4.18	.6486	-.68	2.66	.0657	-.0533	-.0120	.0465
24	-5.93	4.18	.6843	-.65	2.68	.3093	-.0650	-.0074	-.0540
36	-6.03	4.16	.5512	-.70	2.69	-.0637	-.0589	.0014	.0469
48	-6.14	4.17	.5285	-.68	2.69	.0421	-.0611	.0582	-.0398
60	-6.22	4.16	.4491	-.71	2.67	-.1348	-.0634	.0695	.0011
72	-6.32	4.15	.4395	-.67	2.67	.0166	-.0664	.0639	-.0484

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-5.62	-.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-5.57	3.18	-.0602	-.65	2.66
-5.49	3.07	-.0576	-.65	2.53
-5.47	3.49	-.0527	-.65	2.66
-5.43	3.57	-.0926	-.63	2.65
-5.43	3.75	-.0853	-.63	2.63
-5.40	3.78	-.0844	-.62	2.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.54	4.22	-.0367	-.48	2.65	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-6.66	4.20	.6911	-.50	2.66	.0662	-.0352	-.0480	.0524
24	-6.74	4.18	.6973	-.48	2.67	.2950	-.0436	-.0619	-.0275
36	-6.86	4.17	.5935	-.50	2.69	-.1412	-.0444	-.0481	.0280
48	-6.97	4.16	.5854	-.50	2.70	.0610	-.0571	-.0692	-.0322
60	-7.09	4.13	.5007	-.52	2.71	-.1895	-.0592	-.0275	-.0188
72	-7.18	4.14	.4629	-.48	2.71	.0405	-.0674	-.0212	-.0506

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.44	-.48

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.39	3.03	-.0117	-.48	2.64
-6.33	3.02	.0083	-.49	2.53
-6.29	3.38	-.0004	-.49	2.62
-6.23	3.42	.0047	-.50	2.64
-6.21	3.65	-.0245	-.50	2.60
-6.20	3.74	-.0295	-.49	2.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-7.05	4.56	.0248	-.46	2.77	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-7.16	4.50	.7018	-.49	2.76	.0639	.0200	-.0158	.0677
24	-7.26	4.48	.7126	-.49	2.77	.2963	.0093	-.0244	.0538
36	-7.38	4.43	.5939	-.48	2.78	-.0831	.0032	-.0374	.0619
48	-7.47	4.42	.5604	-.50	2.76	.0701	-.0024	-.0816	.0189
60	-7.59	4.40	.4754	-.51	2.77	-.2039	-.0052	-.0879	.0175
72	-7.66	4.37	.4745	-.52	2.75	.0110	-.0155	-.0564	-.0226

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.84	-.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.82	3.24	.0457	-.48	2.76
-6.74	3.19	.0422	-.47	2.64
-6.72	3.66	.0650	-.49	2.76
-6.68	3.78	.0840	-.51	2.75
-6.68	4.01	.0824	-.53	2.70
-6.64	4.01	.0588	-.51	2.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-7.20	5.02	.0060	-.63	2.82	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-7.32	4.97	.7294	-.62	2.81	.1947	.0028	-.0202	.0595
24	-7.43	4.94	.7273	-.63	2.82	.2558	-.0067	-.0387	.0580
36	-7.53	4.90	.6218	-.62	2.84	-.0276	-.0121	-.0734	.0612
48	-7.64	4.87	.5762	-.63	2.83	.0339	-.0067	-.0752	.0085
60	-7.74	4.84	.5102	-.63	2.83	-.1407	-.0031	-.0941	.0346
72	-7.85	4.79	.4727	-.66	2.81	.0048	-.0070	-.0670	.0007

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-7.11	-.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-7.04	3.42	.0142	-.63	2.76
-6.96	3.43	.0274	-.63	2.72
-6.93	3.92	.0689	-.65	2.81
-6.88	4.10	.0600	-.65	2.81
-6.86	4.31	.0698	-.67	2.78
-6.83	4.42	.0423	-.66	2.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL ST ,ISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-7.18	5.44	.0224	-.62	2.87	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-7.31	5.41	.7899	-.58	2.88	.3120	.0233	.0097	.0921
24	-7.43	5.39	.7528	-.59	2.88	.2347	.0218	-.0079	.0849
36	-7.54	5.36	.6775	-.58	2.85	.0155	.0217	-.0422	.1046
48	-7.64	5.34	.6130	-.61	2.83	-.0420	.0195	-.0452	.0915
60	-7.73	5.31	.5637	-.60	2.84	-.1126	.0151	-.0434	.0523
72	-7.87	5.26	.5058	-.61	2.82	.0156	.0113	-.0075	.0261

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-7.15	-.58

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-7.05	3.31	-.0143	-.62	2.73
-6.97	3.56	.0192	-.62	2.79
-6.91	3.97	.0679	-.63	2.87
-6.87	4.27	.0680	-.63	2.87
-6.84	4.49	.0632	-.63	2.85
-6.80	4.69	.0300	-.62	2.87

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.96	5.95	.0042	-.64	2.95	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-7.06	5.92	.8226	-.62	2.95	.2551	.0055	-.0132	.0805
24	-7.18	5.89	.7803	-.61	2.94	.2544	.0111	-.0376	.0682
36	-7.30	5.87	.6981	-.62	2.94	-.0165	.0177	-.0767	.1018
48	-7.40	5.85	.6562	-.63	2.93	.0055	.0176	-.0850	.0615
60	-7.50	5.83	.5877	-.65	2.92	-.0641	.0161	-.0854	.0231
72	-7.62	5.82	.5359	-.66	2.90	-.0302	.0106	-.0797	.0123

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.87	-.64

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.80	3.36	-.0080	-.65	2.85
-6.72	3.71	.0306	-.66	2.85
-6.66	4.23	.0834	-.66	2.94
-6.60	4.48	.0795	-.67	2.94
-6.58	4.82	.0687	-.67	2.93
-6.55	5.03	.0560	-.67	2.94

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5	1/56 - 12/70	0	90.0	-1.67	2.89	-.0657	.53	2.55	930
5	1/56 - 12/70	1	90.0	-.97	3.28	.1271	.94	4.25	930
5	1/56 - 12/70	2	90.0	.44	5.68	.2731	-.17	4.49	930
5	1/56 - 12/70	3	90.0	1.65	6.00	.2818	-.31	4.77	930
5	1/56 - 12/70	4	90.0	2.91	6.50	.2669	-.40	5.27	930
5	1/56 - 12/70	5	90.0	4.42	6.86	.2637	-.54	5.70	930
5	1/56 - 12/70	6	90.0	6.06	7.47	.2556	-.64	6.52	930
5	1/56 - 12/70	7	90.0	7.76	8.17	.2787	-.60	7.29	930
5	1/56 - 12/70	8	90.0	9.43	9.09	.2551	-.44	8.27	930
5	1/56 - 12/70	9	90.0	11.18	10.03	.2548	-.51	9.67	930
5	1/56 - 12/70	10	90.0	13.24	11.44	.2736	-.53	11.11	930
5	1/56 - 12/70	11	90.0	15.79	12.68	.3133	-.66	12.65	930
5	1/56 - 12/70	12	90.0	18.45	13.93	.3365	-1.11	13.86	930
5	1/56 - 12/70	13	90.0	20.47	14.07	.3592	-2.26	13.67	930
5	1/56 - 12/70	14	90.0	20.05	12.37	.3922	-2.79	11.84	930
5	1/56 - 12/70	15	90.0	16.85	10.07	.4204	-3.20	9.42	930
5	1/56 - 12/70	16	90.0	12.60	8.24	.3767	-3.11	7.39	930
5	1/56 - 12/70	17	90.0	7.80	6.74	.3549	-2.88	5.90	930
5	1/56 - 12/70	18	90.0	3.34	5.66	.2733	-2.35	4.57	930
5	1/56 - 12/70	19	90.0	-.23	4.69	.1905	-1.61	3.56	930
5	1/56 - 12/70	20	90.0	-2.64	4.28	.1699	-1.22	2.90	930
5	1/56 - 12/70	21	90.0	-4.49	4.11	.0413	-.75	2.59	930
5	1/56 - 12/70	22	90.0	-5.71	4.20	-.0480	-.65	2.66	930
5	1/56 - 12/70	23	90.0	-6.54	4.22	-.0367	-.48	2.65	930
5	1/56 - 12/70	24	90.0	-7.05	4.56	.0248	-.48	2.77	930
5	1/56 - 12/70	25	90.0	-7.20	5.02	.0060	-.63	2.82	930
5	1/56 - 12/70	26	90.0	-7.18	5.44	.0224	-.62	2.87	930
5	1/56 - 12/70	27	90.0	-6.96	5.95	.0042	-.64	2.95	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.08	2.68	.0014	.93	2.38	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.06	2.66	.2249	.93	2.38	.3801	-.0016	.1755	.0698
24	-1.04	2.66	.4932	.92	2.38	.4272	-.0070	.0983	-.0961
36	-1.03	2.66	.0288	.95	2.35	.1970	-.0195	.2472	.0414
48	-.99	2.66	.3228	.97	2.34	.1729	-.0231	.1019	-.0533
60	-.97	2.65	-.1119	.99	2.32	.0674	-.0231	.1767	.0433
72	-.95	2.64	.2567	1.01	2.31	.0568	-.0209	.0596	-.0476

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.10	.99

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.08	2.60	-.0734	.95	2.16
-1.12	2.32	-.0096	.95	2.14
-1.08	2.68	-.0150	.92	2.26
-1.12	2.53	-.0254	.92	2.33
-1.07	2.66	.0187	.91	2.34
-1.12	2.59	-.0119	.92	2.37

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.12	5.13	.1921	1.65	3.86	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.14	5.12	.7015	1.66	3.87	.6583	.1863	.2528	.0084
24	.19	5.11	.6094	1.68	3.87	.4657	.1796	.3055	-.0586
36	.24	5.07	.3654	1.72	3.85	.2323	.1746	.2605	-.0983
48	.29	5.07	.2566	1.73	3.83	.1325	.1658	.2477	-.0507
60	.34	5.06	.1435	1.75	3.83	.0390	.1590	.1459	-.0822
72	.38	5.05	.1428	1.75	3.81	.0409	.1582	.1522	-.0405

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.22	1.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.15	3.60	.1774	1.76	2.86
.11	3.97	.1166	1.72	3.30
.09	4.70	.1478	1.66	3.65
.08	4.86	.1410	1.64	3.72
.09	5.05	.1776	1.64	3.82
.09	5.07	.1757	1.63	3.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.27	5.04	.1908	.92	4.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.28	5.01	.7373	.96	4.01	.6148	.1846	.2734	.0501
24	1.29	5.01	.6182	.97	4.01	.4717	.1844	.2710	-.0361
36	1.31	4.99	.4248	.98	4.01	.2093	.1817	.2566	-.0432
48	1.31	5.00	.3222	.99	4.01	.1420	.1782	.2152	-.0674
60	1.33	4.98	.2206	.98	4.00	.0318	.1734	.1887	-.0623
72	1.34	4.98	.1597	.96	3.97	.0649	.1714	.1642	-.0724

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.38	1.17

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.32	3.38	.0765	1.06	3.08
1.29	3.88	.1337	1.03	3.44
1.27	4.52	.1195	.97	3.81
1.26	4.73	.1481	.95	3.88
1.26	4.89	.1565	93	3.93
1.25	4.95	.1740	.94	3.94

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.87	5.05	.1333	.76	4.11	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.85	5.04	.7723	.77	4.12	.5907	.1343	.2278	.0201
24	1.85	5.04	.6354	.77	4.13	.4653	.1381	.2311	-.0631
36	1.84	5.04	.4600	.78	4.14	.2039	.1383	.2292	-.0581
48	1.83	5.06	.3625	.77	4.15	.1316	.1336	.2009	-.0559
60	1.83	5.05	.2424	.76	4.15	.0158	.1343	.1819	-.0551
72	1.83	5.06	.1693	.73	4.16	.0495	.1290	.1625	-.0701

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.96	.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.93	3.18	.0102	.87	3.26
1.91	3.82	.0807	.85	3.57
1.90	4.44	.0584	.81	3.94
1.89	4.67	.0794	.79	4.00
1.88	4.88	.0931	.77	4.04
1.86	4.95	.1120	.78	4.05

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.27	5.26	.1406	.59	4.25	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	2.22	5.29	.7908	.57	4.28	.6304	.1481	.2263	.0416
24	2.19	5.31	.6727	.57	4.28	.4870	.1502	.2360	-.0545
36	2.15	5.33	.5069	.56	4.28	.2448	.1517	.2367	-.0504
48	2.12	5.33	.4086	.56	4.29	.1699	.1510	.2144	-.0542
60	2.10	5.33	.2867	.57	4.30	.0672	.1506	.1909	-.0330
72	2.12	5.33	.1995	.54	4.32	.0748	.1493	.1607	-.0544

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.38	.76

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.38	3.20	.0167	.72	3.25
2.36	3.81	.0867	.70	3.65
2.36	4.49	.0592	.67	4.03
2.35	4.77	.0792	.66	4.11
2.33	5.03	.0949	.64	4.17
2.30	5.14	.1174	.63	4.19

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.56	5.57	.1087	.26	4.41	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	2.51	5.58	.7852	.25	4.42	.6115	.1090	.2195	.0334
24	2.48	5.60	.6578	.26	4.42	.5104	.1112	.2271	-.0404
36	2.43	5.61	.4993	.26	4.40	.2812	.1144	.2353	-.0484
48	2.39	5.63	.3925	.28	4.42	.2172	.1126	.2075	-.0504
60	2.37	5.63	.2951	.29	4.42	.1187	.1132	.2070	-.0413
72	2.37	5.62	.2318	.27	4.44	.1155	.1128	.1819	-.0424

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.63	.42

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.64	3.44	-.0681	.38	3.42
2.64	4.15	.0241	.36	3.72
2.64	4.79	.0228	.34	4.14
2.64	5.10	.0522	.33	4.23
2.63	5.31	.0591	.32	4.30
2.61	5.40	.0770	.31	4.32

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.91	5.92	.1681	-.13	4.71	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	2.84	5.92	.7849	-.15	4.70	.6688	.1681	.2605	.0812
24	2.79	5.93	.6521	-.14	4.71	.5079	.1673	.2674	-.0013
36	2.75	5.95	.5126	-.15	4.71	.3139	.1689	.2752	-.0034
48	2.67	5.97	.4194	-.14	4.72	.2334	1681	.2393	-.0207
60	2.61	5.96	.3080	-.14	4.75	.1359	.1665	.2374	-.0100
72	2.57	5.95	.2490	-.14	4.75	.1278	.1668	.2030	-.0151

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.90	-.02

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.95	3.65	-.0084	-.04	3.43
2.97	4.44	.0734	-.06	3.96
2.98	5.05	.0659	-.07	4.34
3.00	5.34	.1000	-.07	4.48
2.99	5.62	.1101	-.07	4.55
2.99	5.72	.1305	-.07	4.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.61	6.54	.2292	-.25	5.10	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.51	6.55	.7781	-.27	5.06	.6934	.2279	.2827	.1137
24	3.45	6.56	.6572	-.26	5.07	.5271	.2244	.3030	.0517
36	3.34	6.56	.5165	-.27	5.09	.3840	.2221	.2886	.0145
48	3.24	6.56	.4288	-.29	5.10	.2891	.2244	.2770	.0289
60	3.17	6.53	.3262	-.31	5.09	.1913	.2192	.2427	.0130
72	3.08	6.51	.2635	-.32	5.08	.1291	.2213	.2114	-.0134

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.48	-.16

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.58	4.09	.1162	-.17	3.62
3.62	4.89	.1234	-.19	4.23
3.67	5.56	.1489	-.19	4.59
3.70	5.89	.1507	-.17	4.75
3.70	6.17	.1751	-.17	4.89
3.71	6.29	.1919	-.17	4.97

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.26	7.32	.2449	-.29	5.77	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.88	-.25

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	4.15	7.29	.7972	-.31	5.76	.7105	.2435	.2894	.1482	4.04	4.40	.1089	-.28	4.00
24	4.07	7.31	.6805	-.30	5.76	.5688	.2405	.2940	.0974	4.13	5.34	.1357	-.29	4.66
36	3.95	7.33	.5435	-.33	5.78	.4248	.2388	.2867	.0594	4.22	6.12	.1563	-.27	5.11
48	3.82	7.32	.4731	-.36	5.79	.3210	.2385	.2706	.0710	4.29	6.44	.1574	-.25	5.35
60	3.71	7.31	.3539	-.41	5.75	.2230	.2382	.2392	.0516	4.32	6.84	.1858	-.24	5.52
72	3.60	7.28	.3130	-.41	5.72	.1591	.2420	.2098	.0498	4.35	6.95	.1976	-.23	5.61

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.20	8.50	.2755	-.29	6.84	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.06	8.47	.8027	-.32	6.82	.7344	.2761	.2889	.1925
24	4.93	8.50	.6926	-.34	6.80	.5878	.2737	.2792	.1606
36	4.77	8.51	.5786	-.37	6.82	.4386	.2769	.2593	.1203
48	4.65	8.51	.4981	-.40	6.83	.3541	.2799	.2502	.1215
60	4.51	8.48	.3869	-.45	6.77	.2679	.2815	.2079	.1054
72	4.38	8.47	.3449	-.48	6.74	.2138	.2817	.1852	.1082

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.68	-.31

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.89	5.06	.1604	-.31	4.60
5.03	6.13	.1742	-.30	5.47
5.14	6.93	.1951	-.28	6.07
5.21	7.37	.1957	-.26	6.31
5.27	7.84	.2228	-.24	6.52
5.31	7.98	.2307	-.23	6.62

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.94	9.81	.2893	-.45	8.26	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.79	9.78	.8202	-.48	8.22	.7204	.2848	.2745	.2220
24	5.61	9.78	.7220	-.49	8.17	.5703	.2846	.2785	.2014
36	5.46	9.77	.5968	-.54	8.15	.4396	.2790	.2529	.1573
48	5.34	9.74	.5253	-.54	8.11	.3722	.2809	.2431	.1542
60	5.16	9.74	.4329	-.59	8.04	.2832	.2809	.2031	.1383
72	5.02	9.73	.3930	-.64	8.01	.2230	.2808	.1943	.1446

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.28	-.50

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.52	5.61	.1629	-.50	5.70
5.70	6.78	.1607	-.50	6.71
5.83	7.86	.1993	-.46	7.33
5.91	8.36	.2044	-.45	7.57
5.98	8.84	.2302	-.42	7.85
6.05	9.01	.2330	-.40	7.97

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.75	11.13	.3194	-.74	9.58	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	6.57	11.09	.8304	-.80	9.54	.7486	.3147	.3031	.2580
24	6.38	11.06	.7336	-.81	9.47	.6132	.3123	.2954	.2211
36	6.22	11.01	.6005	-.84	9.42	.4669	.3075	.2471	.1758
48	6.04	10.98	.5349	-.88	9.34	.3971	.2999	.2279	.1834
60	5.81	10.95	.4512	-.96	9.23	.3242	.2948	.1789	.1710
72	5.62	10.96	.4077	-1.04	9.17	.2705	.2885	.1840	.1744

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.02	-.88

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.29	6.20	.1910	-.83	6.31
6.49	7.56	.2019	-.82	7.49
6.63	8.90	.2492	-.78	8.41
6.74	9.40	.2458	-.74	8.72
6.85	9.92	.2708	-.70	9.02
6.92	10.14	.2650	-.66	9.16

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.90	12.59	.3353	-1.60	10.92	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.69	12.53	.8341	-1.70	10.83	.7823	.3282	.2956	.2922
24	7.51	12.49	.7538	-1.71	10.78	.6672	.3245	.2905	.2594
36	7.30	12.38	.6239	-1.73	10.70	.5157	.3191	.2484	.2088
48	7.06	12.34	.5547	-1.80	10.60	.4515	.3083	.2396	.2134
60	6.78	12.26	.4708	-1.93	10.43	.3631	.2978	.1898	.1977
72	6.54	12.29	.4272	-2.04	10.37	.3251	.2929	.2093	.2063

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.14	-1.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.44	6.94	.2153	-1.68	6.79
7.62	8.27	.2195	-1.67	8.09
7.80	9.64	.2637	-1.64	9.31
7.95	10.46	.2509	-1.58	9.68
8.08	11.08	.2775	-1.52	10.13
8.17	11.33	.2634	-1.45	10.24

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.72	13.28	.3392	-2.88	11.03	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	8.47	13.24	.8484	-2.98	10.93	.8054	.3316	.3146	.2985
24	8.26	13.26	.7773	-2.99	10.89	.6979	.3296	.3084	.2617
36	8.01	13.18	.6637	-3.02	10.80	.5624	.3232	.2781	.2137
48	7.73	13.16	.5945	-3.11	10.71	.4769	.3126	.2653	.2173
60	7.36	13.10	.5133	-3.23	10.54	.3804	.3033	.2120	.1936
72	7.05	13.12	.4704	-3.34	10.48	.3305	.2980	.2086	.2138

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.96	-3.03

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.29	7.02	.1881	-2.95	6.52
8.49	8.35	.2139	-2.93	7.85
8.69	9.93	.2526	-2.89	9.05
8.87	10.67	.2398	-2.83	9.60
9.04	11.38	.2756	-2.76	10.14
9.17	11.67	.2664	-2.69	10.34

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.79	12.41	.3262	-4.21	9.48	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.52	12.40	.8780	-4.28	9.41	.7861	.3174	.3254	.2945
24	7.30	12.45	.8196	-4.32	9.39	.7029	.3182	.3162	.2627
36	7.05	12.43	.7163	-4.33	9.31	.5575	.3088	.2913	.2097
48	6.77	12.45	.6587	-4.38	9.20	.4502	.2996	.2712	.1972
60	6.40	12.43	.5668	-4.45	9.10	.3718	.2871	.2421	.1739
72	6.08	12.46	.5228	-4.53	9.04	.3026	.2791	.2248	.1686

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.01	-4.33

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.35	5.94	.0973	-4.28	5.81
7.56	7.11	.1631	-4.24	6.68
7.76	8.66	.2158	-4.21	7.78
7.95	9.34	.2226	-4.16	8.35
8.13	10.22	.2452	-4.10	8.69
8.27	10.57	.2527	-4.05	8.93

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.30	10.32	.2622	-5.01	7.18	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.05	10.30	.8796	-5.02	7.12	.7661	.2602	.2814	.2085
24	4.82	10.32	.8290	-5.06	7.06	.6653	.2535	.2952	.1635
36	4.58	10.31	.7328	-5.04	7.01	.5309	.2406	.2623	.1246
48	4.32	10.31	.6751	-5.09	6.94	.4424	.2270	.2555	.1168
60	4.04	10.24	.5903	-5.09	6.89	.3708	.2188	.2293	.0935
72	3.75	10.26	.5327	-5.17	6.84	.3111	.2077	.2115	.0867

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.54	-5.15

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.86	4.90	.0987	-5.14	4.57
5.08	5.75	.1148	-5.10	5.28
5.29	7.00	.1687	-5.07	6.00
5.46	7.60	.1608	-5.01	6.34
5.61	8.32	.1880	-4.98	6.58
5.73	8.73	.1968	-4.92	6.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.95	7.55	.2393	-4.20	5.28	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.73	7.50	.8414	-4.20	5.24	.6783	.2310	.2712	.1854
24	1.52	7.47	.8047	-4.19	5.21	.6335	.2243	.2796	.1226
36	1.31	7.47	.7055	-4.20	5.13	.4791	.2131	.2680	.0816
48	1.06	7.44	.6514	-4.19	5.12	.4023	.2003	.2409	.0656
60	.86	7.41	.5735	-4.22	5.07	.3035	.1953	.2174	.0445
72	.63	7.36	.5259	-4.26	5.06	.2467	.1808	.1904	.0250

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.42	-4.31

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.69	4.08	.0430	-4.31	3.83
1.88	4.46	.1091	-4.29	4.02
2.04	5.32	.1327	-4.24	4.55
2.20	5.71	.1556	-4.21	4.76
2.29	6.16	.1734	-4.16	4.96
2.39	6.40	.1904	-4.13	5.06

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.15	5.58	.1917	-3.02	4.11	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.33	5.52	.7553	-3.00	4.05	.5110	.1937	.2304	.1461
24	-1.49	5.51	.7600	-2.98	4.02	.5210	.1975	.2338	.1240
36	-1.65	5.49	.6487	-3.01	3.96	.3319	.1864	.2092	.0697
48	-1.81	5.49	.5942	-3.00	3.93	.3102	.1883	.1662	.0516
60	-1.98	5.44	.5125	-3.02	3.88	.1998	.1664	.1353	.0358
72	-2.15	5.41	.4623	-3.03	3.88	.2058	.1617	.0988	.0208

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.47	-3.09

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.26	3.66	.0319	-3.08	3.49
-1.12	3.62	.0490	-3.07	3.46
-1.02	4.24	.1012	-3.02	3.82
-.93	4.47	.1458	-3.02	3.88
-.87	4.78	.1573	-2.99	4.00
-.81	4.94	.1812	-3.00	4.01

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-4.21	4.44	.1154	-2.06	3.19	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-4.37	4.40	.6394	-2.03	3.17	.2830	.1069	.1519	.1485
24	-4.49	4.40	.6865	-2.03	3.12	.4280	.1090	.2023	.0707
36	-4.65	4.34	.5506	-2.02	3.11	.1712	.1024	.1575	.0511
48	-4.77	4.33	.5403	-2.03	3.07	.2433	.0978	.1231	.0180
60	-4.88	4.29	.4364	-2.03	3.07	.0745	.0832	.0669	-.0216
72	-4.97	4.29	.4215	-2.04	3.06	.1057	.0812	.0789	-.0399

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-4.38	-2.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-4.24	3.40	-.0046	-2.10	3.03
-4.14	3.23	-.0338	-2.11	2.84
-4.06	3.71	.0362	-2.06	3.11
-3.99	3.73	.0703	-2.07	3.08
-3.97	3.99	.1009	-2.05	3.17
-3.94	4.02	.0999	-2.04	3.16

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.68	3.78	.1341	-1.22	2.75	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-6.80	3.75	.5528	-1.20	2.72	.1100	.1279	.0501	.0923
24	-6.93	3.74	.6430	-1.19	2.68	.3898	.1310	.1960	.1067
36	-7.04	3.72	.4777	-1.17	2.64	.0327	.1353	.0409	.0247
48	-7.14	3.70	.4778	-1.17	2.63	.2542	.1346	.1119	.0732
60	-7.24	3.67	.3460	-1.14	2.64	-.0128	.1305	-.0136	-.0375
72	-7.33	3.66	.3509	-1.15	2.62	.1855	.1283	.0545	.0194

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.73	-1.26

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.64	3.15	.1258	-1.23	2.73
-6.55	2.90	-.0003	-1.23	2.50
-6.52	3.32	.1320	-1.22	2.75
-6.48	3.32	.0926	-1.22	2.65
-6.48	3.54	.1475	-1.23	2.75
-6.46	3.54	.1301	-1.23	2.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-8.64	3.87	.1176	-.93	2.56	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-8.73	3.83	.3053	-.94	2.56	.0890	.1124	.0425	.0481
24	-8.84	3.86	.6580	-.93	2.53	.2198	.1210	.1530	.1074
36	-8.93	3.84	.2119	-.92	2.53	-.0165	.1168	.0018	-.0049
48	-9.04	3.85	.5065	-.93	2.52	.0835	.1263	.0965	.0802
60	-9.10	3.84	.1095	-.92	2.53	-.0770	.1265	-.0468	-.0465
72	-9.21	3.85	.4066	-.94	2.53	.0628	.1261	.0414	.0403

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-8.66	-.98

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-8.62	3.69	.1091	-.94	2.55
-8.52	2.91	.0154	-.93	2.48
-8.58	3.78	.1195	-.93	2.56
-8.45	3.34	.0789	-.92	2.55
-8.58	3.84	.1197	-.94	2.56
-8.42	3.54	.1113	-.92	2.56

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-10.10	3.85	-.1068	-.57	2.63	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-10.18	3.84	.2105	-.58	2.63	-.0813	-.1023	.1823	.2366
24	-10.29	3.90	.6318	-.58	2.63	.2946	-.0925	-.0668	-.0784
36	-10.37	3.88	.1683	-.58	2.63	-.1596	-.0966	.1389	.2032
48	-10.49	3.95	.5405	-.58	2.64	.1541	-.0973	-.0989	-.0961
60	-10.55	3.92	.0530	-.61	2.66	-.1459	-.0965	.1467	.1330
72	-10.63	3.95	.4297	-.63	2.68	.1560	-.1040	-.1069	-.1403

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-10.07	-.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-10.08	3.63	-.1393	-.55	2.58
-9.96	2.99	-.0795	-.58	2.51
-10.05	3.70	-.1039	-.54	2.58
-9.88	3.24	-.0568	-.59	2.59
-10.07	3.81	-.0993	-.52	2.58
-9.87	3.46	-.0531	-.60	2.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-11.43	3.65	-.1461	-.44	2.99	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-11.51	3.64	.3965	-.45	2.98	-.2022	-.1407	.1072	.1934
24	-11.61	3.68	.5693	-.44	2.99	.3678	-.1474	-.1138	-.1033
36	-11.69	3.67	.3621	-.43	2.98	-.2471	-.1290	.1118	.1142
48	-11.80	3.69	.4725	-.40	3.02	.2642	-.1369	-.1007	-.1035
60	-11.91	3.70	.3019	-.41	3.02	-.2965	-.1186	.1270	.1247
72	-12.01	3.69	.4008	-.43	3.01	.2817	-.1232	-.1379	-.1295

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-11.41	-.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-11.38	3.23	-.1636	-.44	2.92
-11.32	3.00	-.0974	-.45	2.78
-11.32	3.35	-.1675	-.42	2.89
-11.25	3.22	-.1045	-.47	2.88
-11.28	3.43	-.1552	-.40	2.84
-11.19	3.34	-.0796	-.50	2.85

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-12.57	3.81	-.0813	-.43	2.96	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-12.67	3.82	.4819	-.43	2.95	-.1538	-.0702	-.0407	.0603
24	-12.77	3.83	.5647	-.43	2.95	.3439	-.0786	-.0075	.0268
36	-12.86	3.83	.4325	-.43	2.93	-.2049	-.0663	-.0309	.0159
48	-12.95	3.84	.4304	-.41	2.95	.3006	-.0733	-.0201	-.0030
60	-13.05	3.84	.3521	-.40	2.96	-.2538	-.0667	-.0141	-.0059
72	-13.14	3.83	.3938	-.41	2.96	.2002	-.0744	-.0091	-.0365

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-12.54	-.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-12.50	3.32	-.0545	-.44	2.92
-12.43	3.13	-.1317	-.41	2.77
-12.43	3.43	-.0666	-.44	2.89
-12.39	3.43	-.0944	-.42	2.82
-12.39	3.56	-.0794	-.44	2.86
-12.33	3.50	-.0847	-.42	2.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.31	4.11	-.0422	-.42	2.71	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-13.44	4.13	.4895	-.43	2.71	-.0411	-.0320	-.0433	.0121
24	-13.53	4.13	.5847	-.44	2.71	.1554	-.0314	.0292	.0633
36	-13.64	4.13	.4429	-.45	2.69	-.1083	-.0330	-.0444	-.0240
48	-13.73	4.11	.4885	-.44	2.71	.0808	-.0408	.0781	.0595
60	-13.83	4.11	.3819	-.44	2.71	-.0823	-.0387	-.0401	-.0324
72	-13.95	4.11	.4482	-.43	2.73	.0557	-.0527	.0260	-.0059

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.27	-.42

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-13.23	3.58	-.0228	-.42	2.70
-13.16	3.32	-.0904	-.41	2.67
-13.15	3.69	-.0265	-.44	2.69
-13.08	3.57	-.1008	-.39	2.69
-13.10	3.80	-.0309	-.44	2.70
-13.00	3.68	-.0615	-.41	2.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.98	4.45	-.0665	-.57	2.64	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.97	-.61

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-14.11	4.47	.4963	-.59	2.63	.1405	-.0699	-.0109	.0150	-13.91	3.86	-.0793	-.57	2.62
24	-14.22	4.46	.5814	-.60	2.63	.1102	-.0849	.0294	.0277	-13.84	3.60	-.1147	-.57	2.62
36	-14.34	4.45	.4351	-.62	2.61	-.0040	-.0865	-.0077	-.0058	-13.82	4.01	-.0700	-.57	2.64
48	-14.45	4.40	.5101	-.61	2.60	-.0332	-.0947	.0247	.0022	-13.73	3.82	-.0903	-.56	2.64
60	-14.57	4.39	.3789	-.62	2.60	-.0365	-.0914	.0086	-.0195	-13.75	4.12	-.0748	-.57	2.64
72	-14.68	4.36	.4348	-.63	2.62	-.0304	-.0964	-.0135	.0243	-13.66	4.00	-.0651	-.58	2.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-14.34	4.69	-.0763	-.69	2.82	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-14.45	4.71	.5759	-.72	2.82	.0676	-.0871	-.0176	.0142
24	-14.55	4.79	.5943	-.70	2.82	.0560	-.0910	-.0397	-.0067
36	-14.68	4.81	.4934	-.70	2.83	.0022	-.0917	.0075	.0611
48	-14.79	4.77	.4825	-.71	2.84	.0459	-.0975	-.0759	-.0020
60	-14.93	4.74	.4304	-.74	2.83	-.0238	-.1006	-.0439	-.0022
72	-15.04	4.71	.4246	-.74	2.84	.0297	-.1030	-.0490	-.0278

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-14.31	-.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-14.25	3.82	-.0867	-.69	2.81
-14.20	3.77	-.0690	-.69	2.81
-14.16	4.05	-.0931	-.69	2.82
-14.11	4.11	-.0476	-.71	2.81
-14.07	4.23	-.0625	-.71	2.81
-14.03	4.25	-.0619	-.71	2.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-14.65	5.04	-.0857	-.85	2.88	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-14.80	5.03	.6345	-.86	2.87	.0502	-.0937	-.0519	.0194
24	-14.91	5.03	.6128	-.85	2.86	.1247	-.1030	-.0688	-.0342
36	-15.05	5.03	.5044	-.82	2.88	-.0380	-.1105	-.0540	.0305
48	-15.17	5.00	.4840	-.83	2.89	.0409	-.1080	-.0612	-.0224
60	-15.30	4.98	.4300	-.83	2.91	-.0068	-.1084	-.0390	.0122
72	-15.40	4.96	.4051	-.83	2.93	.0904	-.1097	-.0517	-.0595

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-14.58	-.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-14.51	3.68	-.0735	-.85	2.88
-14.45	3.98	-.0600	-.86	2.86
-14.41	4.33	-.0637	-.86	2.89
-14.37	4.41	-.0655	-.87	2.88
-14.33	4.54	-.0758	-.87	2.88
-14.32	4.61	-.0697	-.87	2.87

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6	1/56 - 12/70	0	90.0	-1.08	2.68	.0014	.93	2.38	900
6	1/56 - 12/70	1	90.0	.12	5.13	.1921	1.65	3.86	900
6	1/56 - 12/70	2	90.0	1.27	5.04	.1908	.92	4.00	900
6	1/56 - 12/70	3	90.0	1.87	5.05	.1333	.76	4.11	900
6	1/56 - 12/70	4	90.0	2.27	5.26	.1406	.59	4.25	900
6	1/56 - 12/70	5	90.0	2.56	5.57	.1087	.26	4.41	900
6	1/56 - 12/70	6	90.0	2.91	5.92	.1681	-.13	4.71	900
6	1/56 - 12/70	7	90.0	3.61	6.54	.2292	-.25	5.10	900
6	1/56 - 12/70	8	90.0	4.26	7.32	.2449	-.29	5.77	900
6	1/56 - 12/70	9	90.0	5.20	8.50	.2755	-.29	6.84	900
6	1/56 - 12/70	10	90.0	5.94	9.81	.2893	-.45	8.26	900
6	1/56 - 12/70	11	90.0	6.75	11.13	.3194	-.74	9.58	900
6	1/56 - 12/70	12	90.0	7.90	12.59	.3353	-1.60	10.92	900
6	1/56 - 12/70	13	90.0	8.72	13.28	.3392	-2.88	11.33	900
6	1/56 - 12/70	14	90.0	7.79	12.41	.3262	-4.21	9.68	900
6	1/56 - 12/70	15	90.0	5.30	10.32	.2622	-5.01	7.19	900
6	1/56 - 12/70	16	90.0	1.95	7.55	.2393	-4.20	5.28	900
6	1/56 - 12/70	17	90.0	-1.15	5.58	.1917	-3.02	4.11	900
6	1/56 - 12/70	18	90.0	-4.21	4.44	.1154	-2.06	3.19	900
6	1/56 - 12/70	19	90.0	-6.68	3.78	.1341	-1.22	2.75	900
6	1/56 - 12/70	20	90.0	-8.64	3.87	.1176	-.93	2.56	900
6	1/56 - 12/70	21	90.0	-10.10	3.85	-.1068	-.57	2.63	900
6	1/56 - 12/70	22	90.0	-11.43	3.65	-.1461	-.44	2.99	900
6	1/56 - 12/70	23	90.0	-12.57	3.81	-.0813	-.43	2.96	900
6	1/56 - 12/70	24	90.0	-13.31	4.11	-.0422	-.42	2.71	900
6	1/56 - 12/70	25	90.0	-13.98	4.45	-.0665	-.57	2.64	900
6	1/56 - 12/70	26	90.0	-14.34	4.69	-.0763	-.69	2.82	900
6	1/56 - 12/70	27	90.0	-14.65	5.04	-.0857	-.85	2.88	900

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.60	2.29	-.1376	1.48	1.84	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.58	2.27	.2129	1.50	1.84	.1849	-.1417	.1632	.1304
24	-.57	2.27	.4910	1.52	1.83	.2416	-.1372	-.0014	-.0592
36	-.55	2.24	.0890	1.50	1.84	.0568	-.1271	.1298	.0939
48	-.55	2.24	.2786	1.50	1.83	.0655	-.1249	-.0000	-.0438
60	-.53	2.24	-.0143	1.49	1.83	-.0414	-.1142	.0923	.0636
72	-.53	2.24	.2003	1.48	1.83	-.0257	-.1139	-.0734	-.0668

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.62	1.63

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.58	2.21	-.2223	1.50	1.78
-.62	2.00	-.1645	1.50	1.79
-.59	2.27	-.1603	1.48	1.82
-.62	2.20	-.1430	1.48	1.84
-.59	2.29	-.1353	1.47	1.83
-.63	2.24	-.1276	1.48	1.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.79	4.40	-.0129	2.73	3.31	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.86	4.40	.7755	2.75	3.28	.5690	-.0092	-.0248	-.0862
24	.91	4.41	.6908	2.76	3.27	.4757	-.0050	-.0270	-.0881
36	.94	4.42	.4902	2.76	3.27	.2407	-.0066	-.0779	-.1072
48	.96	4.42	.3699	2.77	3.27	.1623	.0060	-.1012	-.0982
60	.96	4.43	.2201	2.77	3.27	.0579	.0080	-.0936	-.0834
72	.94	4.43	.1540	2.77	3.27	.0694	.0157	-.0699	-.0527

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.84	2.84

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.76	2.76	.0996	2.78	2.72
.73	3.16	.0729	2.77	2.91
.72	3.81	.0600	2.75	3.20
.73	4.06	.0451	2.75	3.25
.75	4.27	.0131	2.74	3.29
.76	4.34	.0017	2.74	3.29

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.18	4.45	.0981	1.85	3.45	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.24	4.49	.7466	1.86	3.43	.5789	.1021	.1159	.0488
24	1.29	4.49	.6622	1.88	3.42	.4732	.1035	.0891	-.0153
36	1.32	4.49	.4747	1.90	3.42	.2357	.1031	.0041	-.0079
48	1.35	4.49	.3674	1.93	3.42	.1899	.1095	-.0427	-.0122
60	1.37	4.50	.2360	1.94	3.42	.0775	.1108	-.0442	.0084
72	1.37	4.49	.1728	1.96	3.43	.0539	.1148	-.0506	.0112

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.39	1.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.29	2.96	.0505	1.91	2.81
1.23	3.31	.1197	1.88	3.04
1.20	3.91	.1285	1.86	3.35
1.19	4.13	.1365	1.85	3.38
1.18	4.32	.1137	1.85	3.44
1.18	4.38	.1095	1.84	3.44

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.35	4.59	.1239	1.62	3.51	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (X^P,Y)	R (YP,X)
12	1.41	4.62	.7830	1.65	3.50	.6469	.1233	.1387	.0543
24	1.47	4.62	.6676	1.67	3.50	.4805	.1182	.0935	.0169
36	1.51	4.62	.4901	1.70	3.49	.2529	.1163	.0379	.0163
48	1.55	4.61	.3889	1.72	3.49	.1627	.1200	.0012	.0162
60	1.55	4.61	.2801	1.74	3.47	.0682	.1241	-.0291	.0041
72	1.55	4.60	.2080	1.77	3.46	.0468	.1343	-.0367	.0116

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.58	1.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.48	2.85	.0897	1.63	2.67
1.42	3.41	.1400	1.61	3.08
1.39	4.00	.1372	1.61	3.40
1.37	4.23	.1414	1.61	3.47
1.36	4.41	.1404	1.61	3.50
1.36	4.49	.1357	1.61	3.51

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.36	4.79	.1173	1.45	3.77	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.42	4.79	.7894	1.49	3.73	.6514	.1067	.1502	.0399
24	1.48	4.77	.6611	1.50	3.74	.4987	.1029	.1145	-.0015
36	1.52	4.74	.5065	1.54	3.72	.2912	.1009	.0825	-.0173
48	1.55	4.74	.3899	1.54	3.72	.1673	.1071	.0362	.0020
60	1.56	4.73	.2879	1.57	3.69	.0555	.1114	-.0054	.0118
72	1.55	4.73	.2198	1.58	3.67	.0210	.1213	-.0234	.0419

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.56	1.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.47	2.93	.0590	1.42	2.84
1.42	3.58	.1174	1.42	3.26
1.39	4.12	.1158	1.42	3.60
1.37	4.41	.1210	1.43	3.71
1.36	4.59	.1256	1.44	3.76
1.35	4.67	.1252	1.45	3.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.16	4.86	.0779	1.10	3.86	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.22	4.89	.7782	1.13	3.84	.6300	.0788	.1107	.0007
24	1.26	4.85	.6694	1.12	3.82	.5142	.0770	.0970	-.0222
36	1.30	4.84	.4921	1.16	3.82	.2954	.0794	.0535	-.0381
48	1.32	4.82	.3977	1.15	3.81	.1811	.0850	.0096	-.0026
60	1.33	4.82	.2722	1.16	3.80	.0559	.0885	-.0339	.0289
72	1.32	4.84	.2107	1.17	3.79	.0231	.0973	-.0487	.0542

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.33	.99

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.26	3.04	.0613	1.02	2.99
1.22	3.59	.0799	1.03	3.30
1.20	4.21	.0896	1.05	3.68
1.18	4.46	.0895	1.07	3.79
1.16	4.68	.0905	1.09	3.85
1.16	4.75	.0895	1.09	3.85

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.81	4.93	.0539	.76	4.14	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.85	4.94	.7553	.76	4.13	.6090	.0547	.1044	-.0314
24	.88	4.91	.6335	.75	4.10	.5014	.0552	.0869	-.0331
36	.90	4.90	.4571	.78	4.10	.2814	.0608	.0455	-.0285
48	.94	4.88	.3613	.77	4.08	.1695	.0615	.0091	.0117
60	.96	4.90	.2677	.77	4.06	.0731	.0662	-.0359	.0375
72	.93	4.92	.2104	.77	4.06	.0367	.0733	-.0388	.0543

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.85	.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.82	3.21	.0370	.66	3.27
.80	3.80	.0492	.68	3.58
.80	4.37	.0574	.71	3.97
.78	4.60	.0570	.73	4.08
.78	4.75	.0646	.75	4.13
.79	4.81	.0620	.75	4.14

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.28	5.01	.0897	.37	4.36	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.31	5.00	.7573	.36	4.36	.6417	.0874	.1544	.0232
24	.34	4.98	.6334	.35	4.33	.4948	.0864	.1323	.0044
36	.36	4.96	.4732	.33	4.34	.2901	.0918	.1105	.0151
48	.37	4.97	.3568	.34	4.31	.1862	.0889	.0466	.0361
60	.36	4.99	.2875	.34	4.30	.0809	.0936	.0023	.0460
72	.35	5.01	.2335	.31	4.29	.0484	.0999	-.0026	.0809

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.37	.22

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.33	3.27	.0001	.28	3.31
.31	3.87	.0456	.31	3.77
.29	4.42	.0542	.34	4.15
.28	4.68	.0788	.35	4.28
.28	4.80	.0917	.36	4.34
.28	4.87	.0903	.36	4.35

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.10	5.55	.1673	-.10	4.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	5.54	.7679	-.10	4.69	.6699	.1608	.2015	.0940
24	-.09	5.51	.6255	-.13	4.65	.5178	.1605	.1771	.0843
36	-.10	5.42	.4624	-.15	4.63	.3461	.1498	.1392	.0830
48	-.10	5.42	.3697	-.13	4.60	.2155	.1494	.0736	.0847
60	-.12	5.42	.2957	-.13	4.57	.1314	.1501	.0506	.0941
72	-.13	5.43	.2398	-.18	4.58	.0808	.1532	.0278	.0842

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.06	-.24

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.07	3.55	.0676	-.18	3.47
-.08	4.33	.0974	-.15	4.01
-.09	4.92	.1188	-.12	4.41
-.09	5.15	.1478	-.12	4.60
-.09	5.29	.1545	-.11	4.68
-.09	5.38	.1624	-.10	4.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.66	6.49	.2715	-.61	5.39	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.66	6.45	.7758	-.62	5.37	.6999	.2649	.2776	.1862
24	-.63	6.41	.6198	-.66	5.32	.5132	.2614	.2373	.1631
36	-.63	6.32	.4663	-.67	5.28	.3301	.2478	.1984	.1439
48	-.65	6.30	.3700	-.67	5.23	.2091	.2424	.1496	.1168
60	-.69	6.29	.2905	-.68	5.20	.1332	.2415	.1022	.1107
72	-.71	6.27	.2312	-.73	5.21	.0949	.2370	.0673	.0707

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.04	-.84

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.17	4.09	.1549	-.71	3.82
-.29	5.09	.1853	-.65	4.59
-.39	5.73	.2059	-.60	5.05
-.44	6.02	.2338	-.59	5.24
-.48	6.20	.2509	-.59	5.33
-.50	6.31	.2632	-.60	5.36

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12668) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 30.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.01	7.44	.3200	-1.21	6.11	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.03	7.40	.7695	-1.21	6.08	.7146	.3182	.3344	.2327
24	-1.02	7.38	.6244	-1.26	6.04	.5359	.3135	.2730	.1888
36	-1.04	7.29	.4591	-1.29	5.99	.3471	.3044	.2277	.1280
48	-1.09	7.28	.3723	-1.29	5.97	.2381	.2970	.1766	.0955
60	-1.14	7.25	.2586	-1.34	5.95	.1475	.2948	.1195	.0604
72	-1.19	7.21	.2008	-1.41	5.98	.0948	.2696	.0683	.0329

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.09	-1.49

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.06	4.75	.1609	-1.40	4.22
-1.06	5.81	.2341	-1.33	5.11
-1.03	6.61	.2655	-1.27	5.67
-1.01	6.90	.2874	-1.25	5.89
-1.00	7.18	.3030	-1.22	6.02
-.99	7.28	.3166	-1.21	6.07

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.47	8.67	.3326	-1.92	6.80	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.55	8.66	.7668	-1.92	6.75	.7093	.3195	.3349	.2643
24	-1.58	8.66	.6360	-1.98	6.72	.5387	.3158	.2907	.2080
36	-1.60	8.58	.4517	-2.02	6.65	.3354	.3044	.2339	.1409
48	-1.67	8.56	.3572	-2.02	6.63	.2237	.2992	.1930	.0902
60	-1.73	8.51	.2375	-2.06	6.63	.1167	.2895	.1116	.0519
72	-1.81	8.47	.1908	-2.13	6.63	.0819	.2884	.0664	.0059

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.53	-2.24

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.46	5.56	.1409	-2.13	4.73
-1.44	6.69	.2243	-2.04	5.66
-1.44	7.73	.2718	-1.97	6.33
-1.41	8.09	.2958	-1.94	6.56
-1.41	8.42	.3200	-1.92	6.73
-1.40	8.50	.3312	-1.91	6.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.06	9.74	.3124	-2.84	7.43	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.17	9.75	.7805	-2.85	7.36	.7242	.3026	.3172	.2521
24	-2.24	9.73	.6432	-2.91	7.31	.5622	.2966	.2944	.1755
36	-2.29	9.68	.4517	-2.95	7.25	.3646	.2864	.2371	.1070
48	-2.35	9.65	.3471	-2.96	7.22	.2498	.2845	.1931	.0725
60	-2.43	9.58	.2313	-3.01	7.22	.1396	.2766	.1247	.0103
72	-2.52	9.53	.1871	-3.07	7.21	.0949	.2719	.0949	-.0181

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.25	-3.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.13	6.09	.1265	-3.08	5.07
-2.06	7.46	.2097	-2.98	6.06
-2.03	8.69	.2588	-2.91	6.84
-2.01	9.13	.2789	-2.88	7.13
-2.00	9.46	.3025	-2.85	7.33
-1.99	9.54	.3082	-2.83	7.38

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.75	10.28	.2741	-3.99	7.84	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.84	10.24	.7837	-4.01	7.77	.7339	.2661	.3109	.2107
24	-2.88	10.20	.6570	-4.06	7.70	.5756	.2602	.2828	.1266
36	-2.92	10.13	.4610	-4.09	7.63	.3967	.2492	.2463	.0613
48	-2.98	10.08	.3476	-4.08	7.61	.2668	.2481	.1937	.0200
60	-3.04	10.02	.2320	-4.11	7.59	.1709	.2397	.1474	-.0196
72	-3.13	9.96	.1880	-4.16	7.57	.1263	.2342	.1158	-.0473

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.10	-4.48

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.96	6.38	.0696	-4.35	5.24
-2.87	7.73	.1849	-4.25	6.32
-2.80	9.10	.2241	-4.16	7.10
-2.76	9.61	.2489	-4.10	7.49
-2.73	9.96	.2641	-4.05	7.68
-2.79	10.05	.2711	-4.03	7.75

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.41	8.93	.2518	-4.52	7.09	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-3.45	8.87	.7751	-4.55	7.03	.7319	.2397	.3047	.1829
24	-3.50	8.82	.6723	-4.57	6.96	.6091	.2352	.3041	.1078
36	-3.56	8.74	.4757	-4.59	6.93	.4311	.2314	.2757	.0344
48	-3.61	8.69	.3711	-4.62	6.91	.3304	.2307	.2315	.0018
60	-3.64	8.64	.2383	-4.64	6.88	.2273	.2222	.1898	-.0357
72	-3.73	8.56	.1924	-4.68	6.88	.1775	.2176	.1487	-.0533

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.78	-6.01

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.66	5.64	.0419	-5.59	4.74
-3.51	6.60	.1328	-5.39	5.50
-3.38	7.83	.1937	-5.12	6.27
-3.32	8.26	.2214	-4.96	6.60
-3.28	8.64	.2404	-4.81	6.83
-3.25	8.72	.2490	-4.73	6.94

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-4.34	6.57	.2673	-3.91	5.60	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-4.38	6.50	.7587	-3.91	5.55	.6611	.2549	.3096	.1834
24	-4.42	6.46	.6803	-3.91	5.50	.6508	.2554	.3139	.1308
36	-4.43	6.41	.4840	-3.92	5.47	.4634	.2589	.3077	.0670
48	-4.48	6.41	.3985	-3.91	5.43	.4082	.2621	.2571	.0455
60	-4.53	6.41	.2736	-3.92	5.41	.2901	.2564	.2342	.0215
72	-4.60	6.38	.2196	-3.92	5.42	.2707	.2599	.1707	.0142

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-4.89	-4.23

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-4.73	4.28	.0805	-4.18	4.12
-4.65	4.80	.1470	-4.18	4.17
-4.55	5.73	.1886	-4.13	4.85
-4.49	6.01	.2264	-4.09	5.04
-4.42	6.31	.2378	-4.05	5.28
-4.39	6.40	.2576	-4.02	5.36

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF ", Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-5.07	4.80	.2954	-2.84	4.23	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-5.08	4.76	.6557	-2.83	4.21	.5731	.2906	.3448	.2116
24	-5.10	4.76	.6178	-2.82	4.20	.6015	.2940	.3716	.1506
36	-5.12	4.73	.4313	-2.82	4.19	.4026	.2994	.3455	.1043
48	-5.13	4.73	.3571	-2.80	4.14	.3775	.3082	.3001	.0572
60	-5.15	4.75	.2638	-2.77	4.12	.2571	.3072	.2437	.0637
72	-5.18	4.76	.1953	-2.77	4.11	.2614	.3167	.2123	.0623

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.32	-2.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-5.88	3.62	.0970	-3.11	3.37
-5.83	3.77	.1361	-3.14	3.27
-5.60	4.33	.1938	-3.15	3.74
-5.51	4.48	.2427	-3.10	3.83
-5.38	4.63	.2559	-3.06	4.02
-5.29	4.71	.2709	-3.02	4.04

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.28	3.66	.2318	-1.98	3.36	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-6.30	3.67	.4790	-1.95	3.37	.3389	.2313	.2259	.2257
24	-6.31	3.66	.5610	-1.92	3.36	.4653	.2320	.2762	.1518
36	-6.32	3.67	.3552	-1.88	3.36	.2680	.2367	.1799	.1370
48	-6.33	3.69	.2938	-1.87	3.36	.3176	.2401	.1634	.0947
60	-6.35	3.69	.2179	-1.86	3.34	.1662	.2481	.1244	.0991
72	-6.36	3.67	.1391	-1.82	3.33	.2144	.2462	.0848	.0630

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.41	-2.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.35	3.19	.1099	-2.03	3.12
-6.34	3.03	.0942	-2.06	2.92
-6.33	3.42	.1740	-2.03	3.21
-6.31	3.50	.1959	-2.05	3.17
-6.31	3.57	.2069	-2.01	3.30
-6.30	3.63	.2215	-2.03	3.28

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-8.39	2.97	.0348	-1.16	2.87	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-8.41	2.97	.4317	-1.16	2.86	.0997	.0388	.0672	.1052
24	-8.41	2.96	.4910	-1.15	2.85	.3956	.0360	.1808	-.0309
36	-8.43	2.97	.3086	-1.13	2.89	.0600	.0436	.0677	.0371
48	-8.44	2.98	.2426	-1.14	2.88	.2035	.0516	.0992	-.0088
60	-8.48	2.99	.1944	-1.12	2.87	.0138	.0537	.0255	.0557
72	-8.49	2.98	.1485	-1.14	2.87	.1263	.0562	.0319	.0761

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-8.37	-1.19

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-8.38	2.67	-.0031	-1.16	2.85
-8.37	2.58	-.0446	-1.17	2.59
-8.37	2.82	.0133	-1.16	2.85
-8.37	2.88	.0159	-1.17	2.79
-8.37	2.91	.0299	-1.16	2.86
-8.38	2.93	.0221	-1.17	2.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-10.63	2.86	.1350	-.87	2.65	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-10.66	2.86	.2145	-.86	2.67	-.1195	.1318	-.1519	-.0681
24	-10.70	2.87	.4298	-.88	2.68	.3899	.1455	.1987	.1481
36	-10.72	2.89	.1840	-.89	2.71	-.1140	.1465	-.1130	-.0964
48	-10.77	2.89	.2985	-.89	2.72	.2457	.1518	.1275	.1778
60	-10.78	2.92	.0891	-.91	2.71	-.1502	.1544	-.0987	-.0764
72	-10.82	2.92	.2406	-.91	2.71	.2280	.1610	.1340	.1414

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-10.61	-.90

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-10.62	2.78	.1652	-.88	2.61
-10.60	2.57	.0221	-.87	2.41
-10.61	2.80	.1497	-.88	2.62
-10.59	2.71	.0726	-.86	2.56
-10.62	2.84	.1343	-.89	2.61
-10.59	2.76	.0860	-.85	2.57

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.01	3.43	.0679	-.81	2.39	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-13.06	3.41	-.0588	-.80	2.39	.0237	.0736	-.0368	-.0184
24	-13.11	3.43	.5694	-.80	2.41	.1686	.0788	.0987	.0489
36	-13.14	3.42	-.0951	-.83	2.43	.0734	.0756	-.0772	-.0679
48	-13.17	3.44	.4631	-.81	2.43	.0566	.0771	.0799	.0496
60	-13.20	3.41	-.1315	-.81	2.43	-.0249	.0726	-.0936	-.0661
72	-13.23	3.43	.4173	-.79	2.42	.0285	.0730	.0483	.0372

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.01	-.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-13.02	3.43	.0663	-.81	2.39
-12.96	2.82	.0137	-.81	2.35
-13.03	3.41	.0662	-.82	2.38
-12.94	3.04	.0343	-.80	2.38
-13.04	3.40	.0554	-.82	2.38
-12.92	3.12	.0524	-.80	2.39

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-14.94	3.51	-.2009	-.52	2.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-14.99	3.49	-.0258	-.52	2.72	-.0938	-.1918	.1620	.2278
24	-15.01	3.52	.5082	-.49	2.71	.2428	-.1971	-.1270	-.1200
36	-15.02	3.52	-.0836	-.50	2.72	-.1023	-.1966	.1704	.2403
48	-15.04	3.52	.3883	-.51	2.72	.1585	-.1958	-.1667	-.1337
60	-15.10	3.47	-.1105	-.49	2.71	-.1392	-.1863	.1622	.1767
72	-15.12	3.47	.3451	-.47	2.69	.1410	-.1851	-.1741	-.2018

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-14.98	-.48

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-14.93	3.41	-.1900	-.52	2.68
-14.93	3.02	-.1584	-.52	2.63
-14.94	3.40	-.1789	-.51	2.68
-14.92	3.23	-.1430	-.52	2.66
-14.95	3.44	-.1718	-.51	2.67
-14.90	3.26	-.1379	-.54	2.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-16.42	3.27	-.1696	-.30	3.13	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-16.46	3.27	.2149	-.32	3.14	-.3139	-.1601	.1104	.1815
24	-16.51	3.29	.4052	-.31	3.13	.3770	-.1809	-.1040	-.0840
36	-16.54	3.30	.1677	-.31	3.15	-.2920	-.1785	.1232	.1316
48	-16.56	3.31	.2918	-.33	3.12	.2932	-.1830	-.1457	-.0863
60	-16.59	3.28	.0527	-.34	3.14	-.2700	-.1837	.1164	.1254
72	-16.62	3.30	.2325	-.33	3.14	.2870	-.1828	-.1475	-.1174

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-16.43	-.29

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-16.41	3.12	-.1416	-.31	2.96
-16.39	2.99	-.1460	-.29	2.89
-16.40	3.18	-.1567	-.30	2.98
-16.39	3.13	-.1298	-.30	2.97
-16.40	3.24	-.1484	-.30	3.00
-16.39	3.18	-.1246	-.31	2.98

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-17.56	3.32	-.0141	-.23	3.09	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-17.60	3.33	.3794	-.23	3.08	-.2177	-.0042	-.0159	.0146
24	-17.64	3.30	.4131	-.21	3.10	.2722	-.0166	.0350	.0104
36	-17.67	3.31	.3026	-.23	3.16	-.2486	-.0215	-.0318	.0424
48	-17.70	3.30	.3272	-.24	3.14	.2871	-.0253	-.0282	.0094
60	-17.73	3.29	.2189	-.25	3.13	-.2080	-.0134	.0059	-.0207
72	-17.77	3.26	.1967	-.26	3.12	.2569	-.0268	.0180	.0097

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-17.53	-.26

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-17.54	3.07	-.0050	-.23	3.02
-17.52	3.02	-.0381	-.24	2.97
-17.52	3.16	.0083	-.23	2.99
-17.51	3.14	-.0110	-.24	2.96
-17.52	3.24	-.0201	-.23	3.02
-17.52	3.25	-.0227	-.23	2.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-16.66	3.50	-.0258	-.27	2.81	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-18.71	3.50	.3254	-.25	2.79	-.0803	-.0206	-.0688	-.0360
24	-18.76	3.48	.3713	-.23	2.79	.1767	-.0225	-.0343	.0502
36	-18.80	3.48	.2828	-.25	2.87	-.0546	-.0313	-.0646	-.0184
48	-18.85	3.45	.2942	-.26	2.85	.2032	-.0327	.0040	.0831
60	-18.90	3.44	.1489	-.28	2.85	-.0773	-.0232	-.0757	-.0153
72	-18.94	3.40	.1996	-.29	2.84	.1182	-.0275	.0547	.0682

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-18.62	-.31

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-18.63	3.31	-.0062	-.27	2.79
-18.62	3.24	-.0257	-.29	2.76
-18.61	3.36	-.0026	-.28	2.79
-18.60	3.33	-.0492	-.28	2.75
-18.62	3.46	-.0158	-.28	2.79
-18.60	3.42	-.0470	-.26	2.78

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-19.44	3.82	.0182	-.52	2.70	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-19.48	3.81	.3587	-.52	2.71	.0482	.0211	-.0564	-.0735
24	-19.53	3.79	.4465	-.53	2.69	.0821	.0240	-.0159	.0748
36	-19.58	3.78	.2738	-.53	2.78	.0285	.0179	-.1253	.0446
48	-19.63	3.75	.3476	-.56	2.78	.0817	.0150	-.0090	.1227
60	-19.69	3.73	.1908	-.56	2.79	.0063	.0220	-.0445	.0468
72	-19.75	3.70	.2573	-.54	2.78	.0427	.0306	.0304	.0501

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-19.40	-.58

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-19.40	3.55	.0458	-.53	2.69
-19.38	3.41	.0226	-.52	2.69
-19.39	3.67	.0539	-.54	2.67
-19.36	3.56	.0127	-.52	2.69
-19.38	3.75	.0270	-.53	2.69
-19.35	3.69	.0090	-.51	2.69

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-20.08	4.35	-.0864	-.60	2.68	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-20.11	4.35	.4633	-.60	2.88	.0545	-.0808	-.0188	-.0161
24	-20.18	4.23	.4990	-.64	2.89	.0611	-.0821	-.0143	.0367
36	-20.23	4.22	.3115	-.65	2.92	.0600	-.0848	-.0361	.0720
48	-20.30	4.18	.3289	-.64	2.91	.0203	-.0797	-.0375	.0992
60	-20.35	4.16	.2101	-.61	2.91	-.0186	-.0735	.0329	.0911
72	-20.39	4.15	.2457	-.61	2.90	-.0504	-.0719	.0056	.0413

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-19.98	-.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-20.02	3.85	-.0891	-.61	2.88
-19.98	3.76	-.0974	-.61	2.87
-20.00	4.11	-.0857	-.61	2.87
-19.98	4.07	-.0815	-.61	2.88
-20.01	4.23	-.0942	-.60	2.88
-19.98	4.21	-.0877	-.60	2.88

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-20.49	4.70	-.0384	-.80	3.09	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-20.56	4.67	.4867	-.81	3.09	.1320	-.0337	.0642	.0410
24	-20.62	4.66	.4721	-.85	3.09	.0500	-.0332	.0082	.0728
36	-20.68	4.65	.3324	-.87	3.12	-.0246	-.0371	.0368	.1352
48	-20.70	4.62	.3285	-.86	3.12	.1351	-.0382	-.0528	.0960
60	-20.74	4.60	.2403	-.84	3.11	-.0134	-.0339	.0275	.0912
72	-20.79	4.57	.2553	-.85	3.10	.0162	-.0317	.0197	.0208

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-20.34	-.81

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-20.38	4.10	-.0898	-.79	3.06
-20.35	4.13	-.0540	-.80	3.09
-20.36	4.38	-.0507	-.80	3.09
-20.36	4.41	-.0383	-.81	3.06
-20.39	4.54	-.0454	-.80	3.09
-20.37	4.55	-.0455	-.80	3.09

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7	1/56 - 12/70	0	90.0	-.60	2.29	-.1376	1.48	1.84	930
7	1/56 - 12/70	1	90.0	.79	4.40	-.0129	2.73	3.31	930
7	1/56 - 12/70	2	90.0	1.18	4.45	.0981	1.85	3.45	930
7	1/56 - 12/70	3	90.0	1.35	4.59	.1239	1.62	3.51	930
7	1/56 - 12/70	4	90.0	1.36	4.79	.1173	1.45	3.77	930
7	1/56 - 12/70	5	90.0	1.16	4.86	.0779	1.10	3.86	930
7	1/56 - 12/70	6	90.0	.81	4.93	.0539	.76	4.14	930
7	1/56 - 12/70	7	90.0	.28	5.01	.0897	.37	4.36	930
7	1/56 - 12/70	8	90.0	-.10	5.55	.1673	-.10	4.72	930
7	1/56 - 12/70	9	90.0	-.66	6.49	.2715	-.61	5.39	930
7	1/56 - 12/70	10	90.0	-1.01	7.44	.3200	-1.21	6.11	930
7	1/56 - 12/70	11	90.0	-1.47	8.67	.3326	-1.92	6.80	930
7	1/56 - 12/70	12	90.0	-2.06	9.74	.3124	-2.84	7.43	930
7	1/56 - 12/70	13	90.0	-2.75	10.28	.2741	-3.99	7.84	930
7	1/56 - 12/70	14	90.0	-3.41	8.93	.2518	-4.52	7.09	930
7	1/56 - 12/70	15	90.0	-4.34	6.57	.2673	-3.91	5.60	930
7	1/56 - 12/70	16	90.0	-5.07	4.80	.2954	-2.84	4.23	930
7	1/56 - 12/70	17	90.0	-6.28	3.66	.2318	-1.98	3.36	930
7	1/56 - 12/70	18	90.0	-8.39	2.97	.0348	-1.16	2.87	930
7	1/56 - 12/70	19	90.0	-10.63	2.86	.1350	-.87	2.65	930
7	1/56 - 12/70	20	90.0	-13.01	3.43	.0679	-.81	2.39	930
7	1/56 - 12/70	21	90.0	-14.94	3.51	-.2009	-.52	2.72	930
7	1/56 - 12/70	22	90.0	-16.42	3.27	-.1696	-.30	3.13	930
7	1/56 - 12/70	23	90.0	-17.56	3.32	-.0141	-.23	3.09	930
7	1/56 - 12/70	24	90.0	-18.66	3.50	-.0258	-.27	2.81	930
7	1/56 - 12/70	25	90.0	-19.44	3.82	.0182	-.52	2.70	930
7	1/56 - 12/70	26	90.0	-20.08	4.35	-.0864	-.60	2.88	930
7	1/56 - 12/70	27	90.0	-20.49	4.70	-.0384	-.80	3.09	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.58	2.14	.0388	.69	1.99	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.60	2.15	.2223	.66	1.99	.4280	.0401	.1783	.0837
24	-.61	2.16	.4582	.65	2.01	.4098	.0325	.0820	.0258
36	-.62	2.17	.0904	.63	2.01	.2409	.0412	.1228	.0811
48	-.63	2.17	.2849	.62	2.01	.2024	.0339	.0666	.0037
60	-.66	2.17	.0110	.60	2.01	.0805	.0380	.0529	.0147
72	-.68	2.16	.2193	.59	2.01	.0851	.0357	.0322	-.0493

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.57	.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.58	2.08	-.0374	.69	1.77
-.56	1.89	-.0048	.70	1.81
-.58	2.13	.0038	.70	1.92
-.56	2.05	.0228	.70	1.95
-.58	2.14	.0373	.70	1.99
-.56	2.09	.0377	.70	1.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.10	4.45	.1412	2.00	3.59	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	4.42	.7548	1.98	3.60	.6435	.1350	.1250	.0683
24	-.03	4.40	.6389	1.96	3.61	.5406	.1351	.1051	.0619
36	-.08	4.39	.4712	1.92	3.61	.3318	.1309	.0366	.0472
48	-.12	4.38	.3710	1.90	3.60	.2558	.1227	.0144	.0593
60	-.19	4.37	.2495	1.87	3.60	.1150	.1297	-.0367	.0281
72	-.23	4.37	.1847	1.84	3.60	.0940	.1252	-.0509	.0473

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.19	1.89

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.23	2.91	.1372	1.95	2.74
.25	3.42	.1348	1.97	3.02
.23	3.92	.1548	1.99	3.38
.22	4.13	.1474	2.00	3.47
.19	4.31	.1570	1.99	3.56
.18	4.37	.1517	1.98	3.56

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.56	4.44	.2291	1.52	3.63	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.49	4.41	.7497	1.51	3.63	.6611	.2278	.2195	.1556
24	.44	4.39	.6256	1.49	3.62	.5576	.2255	.1466	.1139
36	.40	4.39	.4657	1.47	3.61	.3072	.2219	.1040	.1013
48	.34	4.40	.3590	1.43	3.59	.2313	.2196	.0176	.0667
60	.28	4.40	.2568	1.41	3.58	.0822	.2231	-.0089	.0692
72	.23	4.40	.1815	1.37	3.56	.0594	.2205	-.0792	.0434

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.65	1.35

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.68	2.94	.1503	1.43	2.71
.69	3.46	.2355	1.45	3.01
.67	3.93	.2154	1.49	3.45
.67	4.15	.2487	1.50	3.53
.65	4.29	.2392	1.51	3.61
.63	4.37	.2489	1.49	3.60

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.78	4.68	.2294	1.39	3.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.72	4.65	.7807	1.38	3.72	.6918	.2274	.2203	.1496
24	.68	4.64	.6528	1.37	3.71	.5345	.2274	.1670	.1273
36	.65	4.61	.5174	1.36	3.69	.3221	.2241	.1128	.1125
48	.60	4.60	.3909	1.33	3.67	.2123	.2238	.0357	.0785
60	.55	4.60	.2755	1.29	3.67	.0849	.2257	-.0160	.0803
72	.51	4.60	.1936	1.27	3.66	.0502	.2255	-.0774	.0640

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.87	1.22

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.90	2.92	.1699	1.29	2.68
.91	3.55	.2057	1.32	3.14
.89	4.01	.2126	1.35	3.52
.89	4.31	.2417	1.36	3.64
.86	4.50	.2425	1.37	3.70
.84	4.59	.2490	1.36	3.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.91	4.83	.2555	1.43	3.83	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.86	4.81	.7630	1.42	3.83	.6861	.2528	.2364	.1665
24	.82	4.81	.6449	1.43	3.81	.5219	.2517	.1933	.1436
36	.80	4.81	.5379	1.43	3.80	.3210	.2482	.1226	.1275
48	.77	4.78	.4296	1.43	3.79	.1757	.2456	.0311	.1096
60	.74	4.78	.3173	1.40	3.78	.0736	.2467	-.0307	.0717
72	.70	4.77	.2247	1.38	3.78	.0228	.2450	-.0695	.0619

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.99	1.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.01	3.12	.1984	1.37	2.77
1.02	3.69	.2160	1.38	3.26
1.01	4.07	.2401	1.40	3.62
1.00	4.36	.2717	1.40	3.77
.99	4.58	.2815	1.41	3.81
.97	4.70	.2789	1.40	3.82

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.93	5.05	.2454	1.22	4.13	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.88	5.03	.7686	1.21	4.14	.6634	.2422	.2496	.1865
24	.84	5.05	.6728	1.21	4.14	.5051	.2433	.1816	.1331
36	.82	5.03	.5185	1.21	4.13	.2598	.2364	.1096	.1179
48	.79	5.01	.4184	1.20	4.12	.1456	.2359	.0134	.0892
60	.76	5.01	.3034	1.18	4.11	.0323	.2312	-.0425	.0635
72	.72	4.98	.2143	1.16	4.11	.0016	.2266	-.0774	.0642

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.02	1.15

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.03	3.23	.1123	1.19	3.07
1.05	3.74	.2171	1.20	3.56
1.03	4.32	.2301	1.21	3.98
1.02	4.59	.2686	1.21	4.08
1.01	4.82	.2719	1.21	4.12
.99	4.94	.2688	1.20	4.12

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.61	5.16	.2881	.82	4.37	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.59	5.18	.7536	.83	4.38	.7065	.2850	.2955	.2171
24	.58	5.19	.6274	.85	4.38	.4893	.2795	.2517	.1609
36	.56	5.18	.4637	.83	4.37	.2693	.2723	.1518	.1093
48	.54	5.18	.3596	.82	4.36	.1357	.2739	.0537	.0827
60	.51	5.17	.2561	.82	4.35	.0422	.2715	-.0339	.0739
72	.51	5.15	.1749	.84	4.36	-.0103	.2663	-.0807	.0627

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.68	.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.68	3.39	.1385	.72	3.06
.68	4.02	.2033	.75	3.78
.67	4.57	.2610	.79	4.20
.67	4.81	.2930	.80	4.33
.66	4.99	.3073	.80	4.36
.64	5.08	.3078	.80	4.36

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.24	5.24	.3124	.52	4.71	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.25	5.28	.7528	.54	4.70	.6916	.3120	.3266	.2174
24	.24	5.29	.6221	.53	4.70	.4783	.3096	.2976	.1599
36	.23	5.29	.4469	.54	4.68	.2675	.3059	.2092	.0992
48	.23	5.28	.3336	.54	4.68	.1402	.3075	.1016	.0912
60	.23	5.27	.2304	.55	4.67	.0684	.3012	.0239	.0535
72	.23	5.25	.1602	.58	4.66	.0167	.2971	-.0401	.0474

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.34	.39

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.32	3.45	.1664	.43	3.36
.31	4.10	.2090	.47	4.07
.30	4.68	.2666	.50	4.49
.28	4.94	.3005	.50	4.65
.27	5.10	.3173	.51	4.70
.26	5.17	.3234	.51	4.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.10	5.44	.2775	-.06	5.03	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.09	5.47	.7555	-.04	5.02	.6982	.2776	.3019	.2141
24	-.07	5.47	.6034	-.03	5.03	.5116	.2743	.2760	.1663
36	-.05	5.49	.4457	-.02	5.01	.3024	.2746	.2107	.1229
48	-.02	5.49	.3437	-.00	4.99	.1861	.2735	.1327	.0970
60	-.01	5.50	.2511	.02	4.98	.0974	.2677	.0540	.0560
72	.00	5.49	.1915	.05	4.97	.0497	.2673	-.0156	.0493

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.03	-.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.02	3.56	.1004	-.14	3.55
-.04	4.34	.1636	-.12	4.26
-.07	4.87	.2171	-.10	4.74
-.09	5.11	.2517	-.09	4.92
-.09	5.27	.2752	-.08	5.00
-.10	5.34	.2864	-.08	5.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.35	5.88	.3071	-.47	5.61	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.33	5.92	.7581	-.44	5.61	.7261	.3065	.3449	.2349
24	-.33	5.93	.6105	-.42	5.60	.5335	.3010	.2990	.1823
36	-.30	5.97	.4584	-.41	5.58	.3435	.3047	.2627	.1453
48	-.25	5.96	.3545	-.40	5.55	.2133	.3013	.1694	.1251
60	-.21	5.95	.2846	-.39	5.54	.1176	.2989	.1037	.0948
72	-.21	5.96	.2153	-.38	5.51	.0709	.3002	.0216	.0636

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.22	-.56

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.26	3.83	.0997	-.53	3.79
-.28	4.66	.1899	-.52	4.67
-.31	5.22	.2253	-.50	5.18
-.34	5.50	.2687	-.49	5.44
-.35	5.64	.2914	-.49	5.56
-.35	5.74	.3106	-.48	5.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(A. T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.43	6.66	.3648	-.96	6.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.39	6.70	.7339	-.96	6.74	.7326	.3668	.3764	.2748
24	-.37	6.68	.5906	-.92	6.73	.5465	.3667	.3453	.2188
36	-.31	6.73	.4397	-.90	6.72	.3692	.3683	.2817	.1970
48	-.25	6.71	.3494	-.91	6.70	.2290	.3668	.2029	.1653
60	-.16	6.70	.2578	-.86	6.69	.1420	.3667	.1136	.1360
72	-.12	6.70	.2129	-.81	6.66	.0949	.3629	.0570	.1091

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.29	-1.05

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.35	4.53	.1859	-1.01	4.51
-.38	5.38	.2407	-1.01	5.53
-.42	5.98	.2800	-1.00	6.16
-.45	6.24	.3180	-.99	6.48
-.47	6.43	.3469	-.99	6.64
-.47	6.51	.3601	-.99	6.69

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.60	7.68	.3746	-1.35	7.56	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.51	7.66	.7267	-1.34	7.58	.7577	.3867	.3826	.2878
24	-.45	7.67	.6076	-1.30	7.59	.5818	.3891	.3633	.2286
36	-.38	7.71	.4430	-1.29	7.59	.4035	.3903	.2993	.2061
48	-.28	7.66	.3779	-1.30	7.58	.2675	.3893	.2418	.1733
60	-.18	7.63	.2723	-1.27	7.57	.1620	.3926	.1626	.1401
72	-.11	7.62	.2385	-1.21	7.54	.0961	.3877	.1035	.1199

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.48	-1.41

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.58	5.27	.2070	-1.40	4.88
-.61	6.10	.2487	-1.41	6.05
-.64	6.88	.2856	-1.41	6.82
-.67	7.10	.3155	-1.40	7.20
-.68	7.38	.3462	-1.40	7.42
-.69	7.45	.3613	-1.39	7.51

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.82	8.53	.3450	-2.04	8.39	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.70	8.49	.7412	-2.04	8.42	.7749	.3559	.3575	.2698
24	-.63	8.49	.6317	-1.99	8.42	.6087	.3599	.3400	.2183
36	-.55	8.51	.4641	-1.96	8.42	.4289	.3639	.2830	.1833
48	-.45	8.47	.4137	-1.96	8.43	.2930	.3628	.2530	.1554
60	-.35	8.43	.2895	-1.90	8.44	.1755	.3641	.1772	.1185
72	-.25	8.40	.2604	-1.83	8.41	.1005	.3623	.1363	.0916

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.71	-2.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.82	5.73	.1796	-2.07	5.25
-.87	6.62	.2230	-2.10	6.56
-.89	7.56	.2632	-2.11	7.49
-.93	7.77	.2785	-2.11	7.91
-.93	8.17	.3123	-2.11	8.19
-.94	8.24	.3242	-2.11	8.29

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.01	8.75	.3332	-2.96	8.53	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.90	8.72	.7615	-2.94	8.57	.7880	.3428	.3601	.2636
24	-.84	8.75	.6708	-2.90	8.57	.6511	.3493	.3692	.2164
36	-.77	8.76	.4918	-2.86	8.56	.4609	.3547	.3114	.1672
48	-.64	8.72	.4284	-2.85	8.57	.3263	.3568	.2710	.1403
60	-.52	8.67	.3076	-2.78	8.59	.2171	.3599	.1973	.0987
72	-.41	8.62	.2762	-2.71	8.60	.1284	.3596	.1718	.0844

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.80	-3.05

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.93	5.67	.1449	-3.03	5.19
-.98	6.49	.1746	-3.04	6.34
-1.03	7.62	.2407	-3.04	7.45
-1.08	7.91	.2622	-3.04	7.94
-1.09	8.33	.2982	-3.04	8.25
-1.11	8.41	.3039	-3.04	8.38

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.69	7.89	.3615	-3.34	7.33	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.60	7.89	.8012	-3.30	7.37	.7526	.3714	.3886	.2778
24	-1.55	7.92	.7019	-3.27	7.37	.6466	.3708	.3965	.2339
36	-1.45	7.95	.5409	-3.22	7.38	.4735	.3752	.3448	.1735
48	-1.32	7.96	.4575	-3.21	7.42	.3580	.3752	.2974	.1417
60	-1.23	7.95	.3413	-3.16	7.44	.2419	.3831	.2404	.0992
72	-1.12	7.90	.3015	-3.09	7.42	.1778	.3827	.2017	.0729

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.44	-3.41

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.55	4.72	.1654	-3.40	4.75
-1.61	5.61	.1860	-3.41	5.46
-1.69	6.63	.2577	-3.42	6.32
-1.73	7.01	.2871	-3.42	6.72
-1.75	7.41	.3170	-3.42	7.02
-1.77	7.51	.3297	-3.43	7.14

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.65	6.23	.3338	-2.59	5.23	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.59	6.24	.7658	-2.56	5.26	.7080	.3439	.3589	.3036
24	-2.53	6.25	.7119	-2.53	5.28	.6656	.3434	.3857	.2790
36	-2.46	6.29	.5473	-2.50	5.29	.5027	.3469	.3392	.2559
48	-2.35	6.32	.4784	-2.48	5.29	.4285	.3449	.3272	.2288
60	-2.27	6.33	.3637	-2.45	5.30	.3052	.3470	.2898	.1782
72	-2.16	6.28	.3133	-2.43	5.28	.2585	.3412	.2740	.1397

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.42	-2.53

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.52	3.99	.0556	-2.55	3.63
-2.58	4.37	.0752	-2.58	3.81
-2.63	5.19	.1689	-2.59	4.43
-2.68	5.45	.1996	-2.62	4.62
-2.71	5.79	.2496	-2.63	4.88
-2.73	5.91	.2695	-2.65	4.95

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.89	4.52	.3323	-1.75	3.86	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-3.85	4.56	.6807	-1.73	3.89	.5477	.3436	.3357	.2817
24	-3.80	4.56	.6708	-1.73	3.93	.6077	.3424	.3849	.2702
36	-3.75	4.58	.4921	-1.69	3.96	.3889	.3526	.3443	.2432
48	-3.69	4.58	.4273	-1.69	3.96	.3716	.3565	.3202	.2467
60	-3.64	4.61	.3172	-1.68	3.97	.2689	.3596	.2725	.1843
72	-3.57	4.60	.2733	-1.67	3.96	.2452	.3484	.2405	.1975

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.66	-1.60

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.75	3.31	.1296	-1.66	3.16
-3.79	3.35	.0915	-1.66	2.97
-3.84	3.92	.1826	-1.71	3.45
-3.87	4.07	.2059	-1.72	3.49
-3.89	4.28	.2599	-1.74	3.64
-3.90	4.32	.2714	-1.75	3.68

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-5.86	3.61	.2055	-1.17	3.14	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-5.81	3.63	.5533	-1.16	3.16	.3474	.2160	.2677	.2870
24	-5.77	3.66	.6017	-1.17	3.16	.4658	.2238	.2674	.1864
36	-5.74	3.70	.4491	-1.16	3.17	.2858	.2336	.2308	.2124
48	-5.69	3.70	.4274	-1.16	3.17	.2746	.2355	.2108	.1488
60	-5.64	3.77	.3038	-1.14	3.16	.1908	.2316	.1369	.1908
72	-5.61	3.77	.2947	-1.15	3.17	.1577	.2290	.1481	.1727

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-5.67	-.97

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-5.75	2.94	.0087	-1.08	2.88
-5.79	2.88	.0325	-1.07	2.73
-5.80	3.20	.0902	-1.11	2.97
-5.64	3.26	.1212	-1.12	2.99
-5.84	3.41	.1556	-1.14	3.07
-5.85	3.43	.1590	-1.15	3.08

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-8.08	3.04	.0699	-.80	2.83	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-8.03	3.04	.4895	-.82	2.84	.0529	.0690	.1493	.1806
24	-8.01	3.08	.5895	-.81	2.85	.3817	.0783	.1495	.0285
36	-7.96	3.11	.4163	-.82	2.83	.0301	.0808	.1561	.1297
48	-7.91	3.13	.4351	-.79	2.83	.2336	.0848	.1320	.0183
60	-7.85	3.15	.3193	-.79	2.83	-.0045	.0804	.1267	.0994
72	-7.81	3.16	.3101	-.76	2.81	.1707	.0802	.1000	-.0114

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-7.90	-.63

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-7.98	2.61	-.0112	-.78	2.79
-8.02	2.46	-.0158	-.72	2.59
-8.04	2.75	.0036	-.79	2.79
-8.08	2.74	.0191	-.76	2.73
-8.08	2.87	.0326	-.81	2.81
-8.11	2.89	.0481	-.79	2.78

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-10.58	3.07	.1785	-.64	2.58	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-10.55	3.10	.3271	-.67	2.58	-.1248	.1681	-.0598	-.0037
24	-10.51	3.10	.5627	-.64	2.57	.3515	.1564	.2343	.1398
36	-10.46	3.11	.2487	-.62	2.54	-.1656	1578	-.0246	-.0586
48	-10.39	3.11	.4749	-.61	2.53	.2353	.1533	.2041	.1332
60	-10.37	3.11	.1984	-.61	2.52	-.1476	.1473	-.0338	-.0873
72	-10.31	3.11	.3647	-.60	2.52	.2171	.1368	.1548	.1277

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-10.45	-.56

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-10.56	2.90	.2044	-.66	2.56
-10.55	2.54	.0394	-.61	2.37
-10.59	2.96	.1756	-.65	2.54
-10.61	2.70	.0820	-.64	2.47
-10.61	2.99	.1748	-.65	2.55
-10.63	2.85	.1185	-.65	2.50

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.06	3.39	.1099	-.44	2.34	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-13.03	3.42	.0788	-.42	2.36	.0446	.1093	-.0488	.0192
24	-12.97	3.40	.5367	-.42	2.34	.2171	.1001	.1436	.0760
36	-12.95	3.41	.0418	-.39	2.31	-.0416	.1004	-.0365	-.0268
48	-12.90	3.40	.4320	-.39	2.30	.0511	.0967	.1103	.0902
60	-12.86	3.43	-.0032	-.39	2.29	-.0885	.0960	-.0637	-.0587
72	-12.81	3.41	.3607	-.40	2.29	.0559	.0981	.0774	.0669

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-12.96	-.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-13.05	3.38	.1138	-.45	2.34
-13.05	2.86	.0346	-.45	2.27
-13.05	3.39	.1105	-.44	2.34
-13.08	3.05	.0678	-.45	2.33
-13.05	3.38	.1056	-.44	2.33
-13.11	3.16	.0866	-.45	2.33

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-14.90	3.45	-.0273	-.31	2.41	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-14.87	3.46	.0858	-.28	2.42	-.0681	-.0290	.1324	.1209
24	-14.81	3.44	.5396	-.29	2.42	.1771	-.0283	-.0755	-.0317
36	-14.80	3.44	.0680	-.28	2.41	-.0791	-.0310	.1119	.1347
48	-14.74	3.42	.4431	-.26	2.41	.0665	-.0340	-.0426	-.0524
60	-14.70	3.44	.0508	-.27	2.40	-.0910	-.0440	.1169	.1199
72	-14.65	3.45	.3853	-.27	2.41	.0889	-.0389	-.0246	-.0779

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-14.78	-.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-14.89	3.41	-.0314	-.30	2.39
-14.88	2.90	.0198	-.31	2.37
-14.89	3.41	-.0250	-.31	2.39
-14.91	3.09	-.0067	-.31	2.41
-14.90	3.42	-.0232	-.32	2.39
-14.95	3.18	-.0134	-.31	2.40

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-16.38	3.37	-.1259	-.22	2.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-16.34	3.38	.2441	-.19	2.65	-.2093	-.1317	.1894	.2243
24	-16.27	3.37	.4984	-.21	2.64	.3515	-.1219	-.1346	-.0689
36	-16.23	3.37	.2144	-.19	2.60	-.1811	-.1173	.1170	.1935
48	-16.17	3.37	.3720	-.16	2.64	.2565	-.1119	-.1304	-.0681
60	-16.12	3.40	.1858	-.14	2.61	-.1879	-.1177	.1146	.1732
72	-16.05	3.40	.2932	-.15	2.61	.2363	-.1184	-.0800	-.0849

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-16.28	-.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-16.36	3.15	-.1377	-.22	2.57
-16.38	2.92	-.0694	-.21	2.49
-16.39	3.21	-.1223	-.23	2.61
-16.42	3.13	-.0796	-.22	2.57
-16.42	3.24	-.1197	-.23	2.61
-16.44	3.22	-.0981	-.22	2.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-17.36	3.38	.0228	-.16	2.91	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-17.31	3.37	.4202	-.16	2.94	-.1442	.0J92	.0658	.1167
24	-17.25	3.37	.4189	-.18	2.93	.3304	.0166	-.0180	.0109
36	-17.21	3.36	.3405	-.15	2.86	-.1599	.0231	.0298	.0801
48	-17.16	3.37	.3071	-.15	2.8[illegible]	.2518	.0255	.0083	.0187
60	-17.11	3.38	.2701	-.13	2.86	-.1644	.0176	.0423	.0512
72	-17.06	3.41	.2364	-.14	2.87	.2250	.0284	.0023	-.0125

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-17.28	-.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-17.34	3.04	.0035	-.17	2.87
-17.37	3.06	.0339	-.13	2.74
-17.38	3.16	.0263	-.17	2.87
-17.40	3.21	.0190	-.14	2.81
-17.41	3.25	.0201	-.18	2.86
-17.41	3.28	.0281	-.15	2.83

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-18.35	3.64	.0405	-.17	2.80	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-18.26	3.66	.3691	-.18	2.84	-.0719	.0295	-.0439	-.0083
24	-18.20	3.67	.3840	-.19	2.84	.2232	.0341	.0378	.0733
36	-18.13	3.66	.3115	-.18	2.75	-.1036	.0451	-.0158	-.0106
48	-18.08	3.68	.2964	-.19	2.75	.1904	.0453	.0585	.0511
60	-18.02	3.69	.2146	-.17	2.76	-.0898	.0307	-.0109	-.0513
72	-17.96	3.71	.2473	-.18	2.73	.1422	.0330	.0339	.0505

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-18.21	-.13

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-18.33	3.38	.0598	-.17	2.79
-18.34	3.35	.0141	-.15	2.73
-18.37	3.46	.0454	-.17	2.79
-18.38	3.47	.0172	-.16	2.75
-18.39	3.55	.0388	-.17	2.79
-18.40	3.52	.0273	-.16	2.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-19.22	3.82	-.0303	-.36	2.76	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-19.15	3.84	.3333	-.38	2.78	-.0028	-.0317	-.0878	-.0797
24	-19.10	3.85	.3472	-.38	2.80	.1538	-.0312	-.0374	.0205
36	-19.05	3.85	.2409	-.36	2.72	-.0098	-.0265	-.0675	-.0266
48	-19.01	3.87	.2680	-.36	2.71	.1078	-.0304	-.0218	.0512
60	-18.95	3.88	.1505	-.33	2.70	-.0461	-.0355	-.0512	-.0359
72	-18.89	3.90	.1955	-.34	2.69	.0588	-.0360	.0040	.0379

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-19.11	-.35

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-19.21	3.59	-.0015	-.37	2.75
-19.22	3.58	-.0239	-.36	2.73
-19.23	3.71	-.0147	-.35	2.76
-19.24	3.67	-.0372	-.36	2.75
-19.24	3.78	-.0244	-.36	2.76
-19.26	3.74	-.0345	-.37	2.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-19.75	4.16	-.0616	-.72	2.78	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-19.72	4.18	.3651	-.73	2.77	.1002	-.0603	.0167	-.0711
24	-19.66	4.21	.3951	-.71	2.77	.1081	-.0627	-.0456	-.0208
36	-19.61	4.20	.2483	-.71	2.75	.0209	-.0632	-.0342	-.0522
48	-19.55	4.24	.3301	-.72	2.76	.1224	-.0671	-.0209	-.0549
60	-19.50	4.24	.1586	-.73	2.76	-.0118	-.0634	.0422	.0053
72	-19.43	4.28	.2645	-.72	2.76	-.0210	-.0567	.0122	.0482

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-19.56	-.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-19.69	3.87	-.0679	-.72	2.76
-19.71	3.83	-.0483	-.73	2.76
-19.73	4.03	-.0542	-.72	2.78
-19.75	3.93	-.0542	-.73	2.76
-19.76	4.11	-.0591	-.72	2.78
-19.79	4.01	-.0661	-.72	2.78

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-20.45	4.40	-.0251	-1.09	2.94	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-20.41	4.43	.3847	-1.07	2.96	.1173	-.0391	.0609	-.0496
24	-20.34	4.44	.3869	-1.04	2.97	.0828	-.0447	-.0487	-.0544
36	-20.32	4.43	.2606	-1.02	2.94	-.0201	-.0374	-.0263	.0413
48	-20.31	4.45	.3348	-1.03	2.94	.1475	-.0433	-.0156	-.0182
60	-20.27	4.48	.1912	-1.02	2.96	.0961	-.0367	.0823	.0179
72	-20.19	4.54	.2449	-1.02	2.98	.1128	-.0342	-.0269	-.0337

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-20.29	-1.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-20.40	4.06	-.0486	-1.08	2.91
-20.43	4.05	-.0036	-1.09	2.92
-20.45	4.24	-.0179	-1.08	2.94
-20.44	4.14	-.0208	-1.10	2.90
-20.46	4.32	-.0446	-1.10	2.91
-20.47	4.26	-.0163	-1.09	2.92

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT N.M.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8	1/56 - 12/70	0	90.0	-.58	2.14	.0388	.69	1.99	930
8	1/56 - 12/70	1	90.0	.10	4.45	.1412	2.00	3.59	930
8	1/56 - 12/70	2	90.0	.56	4.44	.2291	1.52	3.63	930
8	1/56 - 12/70	3	90.0	.78	4.68	.2294	1.39	3.72	930
8	1/56 - 12/70	4	90.0	.91	4.83	.2555	1.43	3.83	930
8	1/56 - 12/70	5	90.0	.93	5.05	.2454	1.22	4.13	930
8	1/56 - 12/70	6	90.0	.61	5.16	.2881	.82	4.37	930
8	1/56 - 12/70	7	90.0	.24	5.24	.3124	.52	4.71	930
8	1/56 - 12/70	8	90.0	-.10	5.44	.2775	-.06	5.03	930
8	1/56 - 12/70	9	90.0	-.35	5.88	.3071	-.47	5.61	930
8	1/56 - 12/70	10	90.0	-.43	6.66	.3648	-.96	6.72	930
8	1/56 - 12/70	11	90.0	-.60	7.68	.3746	-1.35	7.56	930
8	1/56 - 12/70	12	90.0	-.82	8.53	.3450	-2.04	8.38	930
8	1/56 - 12/70	13	90.0	-1.01	8.75	.3332	-2.96	8.53	930
8	1/56 - 12/70	14	90.0	-1.69	7.89	.3515	-3.34	7.33	930
8	1/56 - 12/70	15	90.0	-2.65	6.23	.3338	-2.59	5.23	930
8	1/56 - 12/70	16	90.0	-3.89	4.52	.3323	-1.75	3.86	930
8	1/56 - 12/70	17	90.0	-5.86	3.61	.2055	-1.17	3.14	930
8	1/56 - 12/70	18	90.0	-8.08	3.04	.0699	-.80	2.83	930
8	1/56 - 12/70	19	90.0	-10.58	3.07	.1785	-.64	2.58	930
8	1/56 - 12/70	20	90.0	-13.06	3.39	.1099	-.44	2.34	930
8	1/56 - 12/70	21	90.0	-14.90	3.45	-.0273	-.31	2.41	930
8	1/56 - 12/70	22	90.0	-16.38	3.37	-.1259	-.22	2.67	930
8	1/56 - 12/70	23	90.0	-17.36	3.39	.0228	-.16	2.91	930
8	1/56 - 12/70	24	90.0	-18.35	3.64	.0405	-.17	2.80	930
8	1/56 - 12/70	25	90.0	-19.22	3.82	-.0303	-.36	2.76	930
8	1/56 - 12/70	26	90.0	-19.75	4.16	-.0616	-.72	2.78	930
8	1/56 - 12/70	27	90.0	-20.45	4.40	-.0251	-1.09	2.94	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.59	2.77	.2344	-.24	2.70	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.60	2.78	.5214	-.25	2.71	.5819	.2386	.2456	.1740
24	-1.62	2.77	.4642	-.26	2.72	.4772	.2405	.2160	.1162
36	-1.62	2.77	.1874	-.27	2.73	.2731	.2373	.1458	.0741
48	-1.64	2.78	.1938	-.28	2.74	.1999	.2388	.1317	.0600
60	-1.63	2.78	-.0022	-.29	2.75	.1213	.2390	.0658	.0294
72	-1.64	2.80	.1034	-.29	2.75	.0760	.2346	.0685	.0647

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.63	-.28

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.61	2.36	.1148	-.26	2.18
-1.60	2.46	.1709	-.25	2.36
-1.59	2.72	.2121	-.24	2.59
-1.59	2.72	.2156	-.24	2.63
-1.59	2.77	.2332	-.24	2.68
-1.59	2.76	.2271	-.24	2.69

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.26	5.65	.2675	.40	4.93	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.27	5.65	.7763	.38	4.93	.6905	.2719	.3070	.1852
24	-2.28	5.65	.6154	.38	4.95	.5174	.2713	.2843	.1361
36	-2.26	5.64	.4196	.41	4.99	.3136	.2774	.2104	.0593
48	-2.28	5.63	.2844	.41	5.01	.2468	.2783	.1707	.0336
60	-2.26	5.64	.1739	.40	5.04	.1247	.2764	.0939	.0084
72	-2.28	5.66	.1117	.43	5.08	.0967	.2741	.0203	.0113

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.06	.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.10	3.56	.1028	.43	3.51
-2.13	4.45	.1616	.43	4.15
-2.18	5.12	.2288	.42	4.63
-2.20	5.41	.2481	.41	4.75
-2.23	5.56	.2622	.41	4.88
-2.24	5.61	.2702	.39	4.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.93	5.99	.2796	.42	4.77	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.91	6.00	.7815	.43	4.79	.6904	.2825	.3246	.2230
24	-.91	6.00	.6296	.46	4.81	.5050	.2823	.2870	.1686
36	-.86	5.99	.4677	.48	4.85	.3052	.2816	.2154	.1155
48	-.84	5.97	.3547	.52	4.89	.2466	.2789	.1726	.0687
60	-.82	5.98	.2649	.53	4.92	.1426	.2798	.1156	.0649
72	-.80	6.00	.1886	.53	4.95	.1001	.2798	.0653	.0482

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.88	.49

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.91	3.73	.0552	.47	3.39
-.92	4.65	.1561	.44	4.05
-.94	5.29	.2198	.42	4.49
-.95	5.59	.2492	.41	4.59
-.95	5.77	.2628	.42	4.70
-.95	5.88	.2741	.42	4.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.01	6.01	.2608	.52	4.63	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	6.01	.7836	.55	4.65	.6856	.2628	.2954	.2264
24	.03	6.01	.6424	.58	4.69	.4956	.2610	.2838	.1781
36	.05	6.01	.4937	.60	4.74	.3120	.2575	.2479	.1238
48	.06	5.99	.3745	.62	4.77	.2351	.2556	.2220	.0824
60	.07	5.99	.2859	.65	4.81	.1688	.2537	.1573	.0665
72	.09	6.01	.2242	.67	4.84	.1058	.2507	.1209	.0545

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.25	.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.17	3.73	.0358	.59	3.33
.13	4.60	.1128	.57	3.96
.09	5.22	.1715	.55	4.33
.06	5.57	.2030	.54	4.44
.04	5.75	.2311	.53	4.53
.03	5.85	.2425	.53	4.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.59	6.01	.2804	.56	4.62	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.64	6.02	.7842	.61	4.66	.7206	.2863	.2988	.2514
24	.69	6.02	.6301	.63	4.70	.5286	.2852	.2813	.2115
36	.69	6.01	.4850	.67	4.74	.3347	.2797	.2511	.1479
48	.71	6.01	.3892	.69	4.78	.2488	.2767	.2261	.1108
60	.72	6.02	.3071	.71	4.84	.1728	.2722	.1601	.0932
72	.75	6.02	.2706	.72	4.86	.1160	.2722	.1291	.0707

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.81	.62

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.72	3.72	.0646	.58	3.17
.67	4.66	.1348	.57	3.87
.65	5.25	.1911	.57	4.28
.63	5.53	.2181	.56	4.41
.62	5.72	.2470	.56	4.51
.61	5.78	.2583	.56	4.56

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.89	6.21	.3041	.39	4.89	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.95	6.23	.8079	.44	4.93	.7083	.3072	.3420	.2717
24	1.02	6.24	.6546	.48	4.97	.5512	.3053	.3080	.2124
36	1.05	6.25	.5059	.52	5.03	.3557	.2955	.2762	.1755
48	1.08	6.26	.4158	.55	5.07	.2392	.2918	.2316	.1306
60	1.11	6.26	.3381	.58	5.15	.1704	.2852	.1612	.1015
72	1.16	6.25	.2977	.60	5.18	.1152	.2880	.1069	.0614

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.06	.42

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.98	3.66	.0299	.38	3.39
.91	4.69	.1549	.36	4.01
.89	5.35	.1980	.36	4.48
.88	5.65	.2370	.36	4.67
.87	5.84	.2704	.36	4.78
.86	5.92	.2905	.36	4.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.10	6.44	.3035	.20	5.28	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.17	6.45	.8233	.25	5.32	.7490	.3042	.3463	.2411
24	1.24	6.45	.6840	.31	5.37	.5645	.3062	.3458	.1892
36	1.28	6.47	.5388	.38	5.41	.3911	.3013	.3283	.1494
48	1.31	6.47	.4396	.41	5.46	.2749	.2971	.2842	.1164
60	1.36	6.46	.3647	.44	5.53	.1893	.2911	.2258	.1082
72	1.41	6.45	.3178	.44	5.56	.1353	.2947	.1518	.0859

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.23	.20

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.15	3.66	.0679	.17	3.44
1.10	4.70	.1315	.15	4.25
1.09	5.43	.1737	.14	4.72
1.07	5.79	.2155	.14	4.95
1.05	6.00	.2457	.15	5.10
1.05	6.11	.2744	.16	5.20

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.54	6.94	.3467	.23	5.76	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	1.60	6.96	.8234	.30	5.82	.7719	.3429	.4003	.2817
24	1.68	6.98	.7025	.38	5.85	.5972	.3439	.3869	.2293
36	1.74	6.99	.5640	.46	5.88	.4410	.3380	.3492	.1828
48	1.79	6.99	.4507	.46	5.92	.3305	.3322	.3146	.1482
60	1.85	6.99	.3727	.49	5.98	.2535	.3273	.2583	.1271
72	1.92	6.99	.3296	.48	6.05	.1972	.3234	.2045	.1237

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.60	.24

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.54	3.94	.0490	.19	3.57
1.49	4.94	.1468	.15	4.48
1.46	5.73	.2119	.13	5.02
1.45	6.20	.2503	.14	5.29
1.44	6.44	.2831	.15	5.47
1.43	6.55	.3026	.16	5.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.20	7.56	.3835	.11	6.33	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.19	.11

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	2.29	7.60	.8362	.20	6.39	.7647	.3902	.4428	.3174	2.12	4.14	.0567	.04	3.95
24	2.39	7.64	.7224	.28	6.42	.6046	.3943	.4303	.2734	2.06	5.23	.1479	-.01	4.86
36	2.49	7.69	.5996	.35	6.45	.4513	.3915	.3882	.2266	2.03	6.05	.2226	-.04	5.46
48	2.56	7.69	.4945	.36	6.50	.3474	.3870	.3624	.2005	2.02	6.57	.2571	-.03	5.72
60	2.63	7.70	.4262	.37	6.58	.2706	.3773	.3108	.1923	2.01	6.83	.2901	-.02	5.92
72	2.70	7.70	.3787	.36	6.67	.2287	.3697	.2538	.1863	2.01	6.99	.3170	-.01	6.05

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.10	8.17	.3868	.10	7.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.21	8.19	.8343	.18	7.05	.7575	.3887	.4275	.3128
24	3.35	8.22	.7244	.28	7.13	.6214	.3910	.4215	.2749
36	3.48	8.27	.6048	.37	7.17	.4726	.3890	.3966	.2483
48	3.57	8.28	.5087	.40	7.21	.3778	.3854	.3735	.2323
60	3.63	8.28	.4325	.43	7.28	.2951	.3763	.3137	.2165
72	3.75	8.27	.3776	.43	7.36	.2448	.3687	.2625	.2132

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.13	.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.04	4.51	.1086	.04	4.46
2.95	5.63	.1642	-.03	5.31
2.89	6.51	.2098	-.07	5.95
2.88	7.03	.2434	-.08	6.25
2.88	7.36	.2868	-.06	6.51
2.86	7.54	.3132	-.05	6.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.99	9.06	.3811	-.14	8.01	900

DY HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.10	9.06	.8354	-.06	8.09	.7692	.3716	.4270	.3022
24	4.27	9.10	.7181	.00	8.18	.6218	.3618	.4311	.2610
36	4.39	9.15	.5889	.10	8.23	.4659	.3602	.4227	.2398
48	4.50	9.18	.4906	.15	8.27	.3687	.3521	.3846	.2167
60	4.57	9.20	.4171	.18	8.30	.2883	.3444	.3215	.2072
72	4.69	9.19	.3675	.20	8.37	.2418	.3367	.2556	.2164

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.08	-.22

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.98	4.98	.0885	-.25	4.97
3.86	6.31	.1356	-.29	6.02
3.81	7.32	.1797	-.33	6.74
3.78	7.88	.2337	-.34	7.12
3.77	8.21	.2785	-.32	7.43
3.74	8.38	.3075	-.31	7.63

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.85	10.03	.3785	-.49	9.02	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.97	10.03	.8427	-.44	9.11	.7900	.3660	.4017	.3225
24	5.16	10.04	.7299	-.36	9.17	.6195	.3556	.4059	.2686
36	5.2[illegible]	10.09	.6040	-.28	9.22	.4650	.3540	.3930	.2438
48	5.40	10.12	.4971	-.21	9.27	.3697	.3477	.3620	.2124
60	5.48	10.13	.4121	-.15	9.29	.2909	.3408	.3098	.2011
72	5.63	10.10	.3533	-.14	9.37	.2489	.3342	.2577	.2138

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.82	-.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.72	5.40	.0913	-.80	5.42
4.60	6.85	.1491	-.81	6.85
4.56	7.98	.1919	-.80	7.67
4.55	8.69	.2418	-.79	8.07
4.55	9.11	.2817	-.77	8.39
4.52	9.32	.3054	-.75	8.57

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.85	10.63	.3403	-1.09	9.93	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.99	10.66	.8553	-1.04	9.99	.8078	.3275	.3722	.2806
24	6.19	10.66	.7507	-.98	10.04	.6377	.3176	.3755	.2358
36	6.32	10.70	.6213	-.94	10.07	.4755	.3158	.3553	.2107
48	6.45	10.72	.5242	-.86	10.11	.3673	.3086	.3306	.1911
60	6.57	10.73	.4358	-.79	10.15	.2869	.3037	.2924	.1832
72	6.74	10.68	.3771	-.77	10.24	.2182	.2963	.2540	.1875

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.98	-1.22

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.84	5.51	.0719	-1.23	5.74
5.69	7.02	.1212	-1.27	7.43
5.64	8.33	.1702	-1.28	8.47
5.60	9.05	.2084	-1.30	8.95
5.58	9.55	.2406	-1.31	9.27
5.54	9.81	.2638	-1.31	9.49

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.96	10.90	.3121	-1.77	10.36	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	6.12	10.97	.8612	-1.72	10.39	.8264	.3014	.3436	.2396
24	6.33	10.96	.7672	-1.66	10.44	.6742	.2907	.3385	.1909
36	6.46	11.00	.6362	-1.61	10.48	.4984	.2908	.3243	.1655
48	6.57	11.02	.5410	-1.54	10.53	.3742	.2831	.3002	.1595
60	6.70	11.01	.4479	-1.47	10.57	.2779	.2789	.2663	.1651
72	6.88	10.99	.3989	-1.44	10.63	.2137	.2765	.2368	.1755

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.13	-1.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.97	5.54	.1140	-1.85	5.74
5.82	6.98	.1568	-1.90	7.49
5.76	8.41	.1752	-1.92	8.77
5.73	9.17	.1941	-1.94	9.38
5.70	9.74	.2191	-1.95	9.74
5.65	9.97	.2362	-1.96	9.94

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.91	10.16	.2684	-2.46	9.48	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.06	10.22	.8625	-2.41	9.49	.8239	.2621	.2917	.2001
24	5.26	10.21	.7782	-2.34	9.56	.6866	.2545	.3045	.1473
36	5.40	10.25	.6621	-2.30	9.58	.5098	.2559	.2868	.1140
48	5.49	10.24	.5648	-2.21	9.57	.3856	.2504	.2757	.1019
60	5.64	10.22	.4860	-2.15	9.62	.2735	.2491	.2431	.1075
72	5.82	10.17	.4352	-2.13	9.66	.2057	.2467	.2215	.1263

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.93	-2.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.80	5.13	.1329	-2.48	5.32
4.65	6.36	.1442	-2.56	6.77
4.60	7.59	.1654	-2.59	8.01
4.60	8.37	.1692	-2.63	8.57
4.57	8.88	.1857	-2.65	8.96
4.52	9.14	.1950	-2.66	9.13

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.68	8.57	.2226	-2.41	7.22	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	2.84	8.66	.8616	-2.37	7.25	.8176	.2131	.2652	.1649
24	3.00	8.67	.7854	-2.32	7.29	.6950	.2175	.2670	.1326
36	3.14	8.71	.6769	-2.28	7.30	.5392	.2156	.2605	.1085
48	3.25	8.68	.5911	-2.22	7.31	.4209	.2143	.2636	.1112
60	3.37	8.65	.5007	-2.17	7.36	.3115	.2086	.2407	.1245
72	3.52	8.62	.4441	-2.14	7.40	.2377	.2055	.2135	.1261

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.97	-2.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.79	4.34	.0430	-2.32	4.11
2.65	5.29	.0878	-2.38	5.12
2.57	6.30	.1071	-2.43	5.99
2.52	6.91	.1013	-2.47	6.43
2.48	7.41	.1197	-2.50	6.74
2.43	7.67	.1410	-2.52	6.91

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.23	6.62	.3031	-1.98	5.15	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.34	6.65	.8503	-1.96	5.18	.6884	.2986	.3113	.2583
24	.46	6.68	.8071	-1.93	5.19	.6693	.2970	.3106	.2296
36	.57	6.69	.7150	-1.90	5.21	.4834	.2953	.3144	.2227
48	.71	6.71	.6460	-1.89	5.21	.3866	.2879	.3027	.1871
60	.83	6.69	.5615	-1.84	5.23	.2633	.2860	.2891	.1897
72	.96	6.67	.5148	-1.82	5.25	.2270	.2767	.2575	.1783

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.10	-1.90

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.03	3.49	.0941	-1.97	3.70
-.06	3.91	.1358	-2.00	3.78
-.10	4.63	.1225	-2.05	4.42
-.16	5.06	.1560	-2.08	4.64
-.17	5.48	.1740	-2.12	4.84
-.20	5.67	.2016	-2.14	4.91

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.81	5.38	.2206	-1.21	3.71	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.71	5.40	.7522	-1.15	3.75	.5041	.2228	.2301	.2114
24	-1.61	5.40	.7709	-1.15	3.75	.5591	.2147	.2521	.1659
36	-1.51	5.40	.6261	-1.11	3.76	.2894	.2145	.2098	.1286
48	-1.41	5.41	.5921	-1.11	3.76	.2719	.2066	.2278	.1267
60	-1.30	5.40	.4965	-1.07	3.80	.0688	.2103	.1701	.0735
72	-1.20	5.37	.4616	-1.07	3.80	.0594	.2039	.1725	.1078

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.80	-1.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.87	3.54	.0474	-1.19	3.17
-1.95	3.43	.0500	-1.20	3.03
-1.99	4.20	.1231	-1.23	3.51
-2.04	4.34	.1110	-1.25	3.51
-2.06	4.67	.1603	-1.26	3.65
-2.09	4.78	.1609	-1.28	3.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERICD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.89	4.43	.2028	-.75	3.01	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-3.79	4.45	.6925	-.74	3.01	.3336	.2018	.1810	.1462
24	-3.70	4.45	.7423	-.72	3.00	.4210	.1953	.1948	.1188
36	-3.62	4.46	.5894	-.70	3.00	.1243	.1979	.1887	.0786
48	-3.55	4.44	.5789	-.68	3.00	.1252	.1893	.1470	.0444
60	-3.46	4.49	.4489	-.68	3.01	-.0372	.1890	.1459	.0045
72	-3.40	4.47	.4468	-.69	3.01	-.0006	.1879	.1177	.0176

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.81	-.72

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.90	3.20	.1118	-.75	2.82
-3.97	2.97	.1139	-.76	2.71
-4.00	3.58	.1205	-.78	2.95
-4.04	3.60	.1554	-.78	2.97
-4.04	3.94	.1502	-.79	2.98
-4.07	3.95	.1679	-.79	2.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.10	3.95	.1730	-.64	2.61	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-6.02	3.95	.6180	-.65	2.61	.0816	.1794	.1269	.1551
24	-5.91	3.90	.6931	-.63	2.61	.3266	.1773	.1713	.0835
36	-5.83	3.90	.5503	-.64	2.62	.0291	.1760	.0969	.0893
48	-5.76	3.91	.5199	-.61	2.64	.1033	.1777	.1191	.0522
60	-5.67	3.94	.4431	-.63	2.65	-.0856	.1732	.0849	.0614
72	-5.60	3.93	.3917	-.60	2.66	.0426	.1736	.0545	.0211

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-9.13	-.63

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-8.00	3.10	.1182	-.88	2.59
-8.39	2.84	.0982	-.90	2.45
-7.94	3.30	.1441	-.85	2.60
-7.90	3.37	.1356	-.88	2.59
-7.65	3.54	.1506	-.88	2.59
-7.52	3.63	.1671	-.76	2.61

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-8.07	3.89	.1293	-.45	2.42	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-7.98	3.89	.5362	-.46	2.41	.0342	.1476	.0125	.1073
24	-7.86	3.84	.6370	-.44	2.43	.2163	.1479	.1105	.0644
36	-7.77	3.83	.4595	-.44	2.45	.0100	.1529	.0281	.0826
48	-7.67	3.79	.5174	-.44	2.46	.0210	.1527	.0414	.0264
60	-7.58	3.83	.3985	-.43	2.47	-.0679	.1462	-.0030	.0499
72	-7.47	3.81	.4161	-.41	2.46	-.0016	.1434	.0127	.0374

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-9.13	-.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-8.69	3.28	.1443	-.46	2.42
-8.92	2.93	.0865	-.52	2.35
-8.71	3.46	.1310	-.48	2.42
-8.86	3.33	.1273	-.49	2.41
-8.63	3.65	.1393	-.46	2.41
-8.78	3.54	.1363	-.47	2.42

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-9.64	3.60	.0294	-.21	2.47	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-9.53	3.60	.5485	-.22	2.46	.0499	.0327	.0497	.1039
24	-9.41	3.57	.6412	-.20	2.47	.1526	.0413	.0515	.0505
36	-9.30	3.58	.4709	-.20	2.48	-.0056	.0390	.0057	.0712
48	-9.19	3.55	.5136	-.20	2.48	.0543	.0485	-.0199	.0211
60	-9.07	3.59	.3631	-.19	2.49	-.0286	.0270	.0105	.0568
72	-8.96	3.60	.4204	-.20	2.49	.0309	.0332	-.0436	.0111

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-9.72	-.22

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-9.74	3.00	-.0024	-.22	2.47
-9.84	2.76	-.0096	-.23	2.44
-9.84	3.17	.0308	-.22	2.47
-9.92	3.09	.0465	-.21	2.47
-9.88	3.35	.0290	-.22	2.47
-9.96	3.27	.0529	-.19	2.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-10.89	3.55	-.0208	-.27	2.50	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-10.79	3.55	.5591	-.27	2.52	-.0152	-.0346	-.0381	.0228
24	-10.67	3.55	.5968	-.28	2.51	.1836	-.0239	-.0364	-.0387
36	-10.57	3.56	.4972	-.26	2.54	-.0459	-.0337	-.0444	.0264
48	-10.45	3.58	.4545	-.27	2.50	.0576	-.0037	-.0502	-.0091
60	-10.34	3.59	.4041	-.28	2.50	-.0537	-.0061	-.0152	.0059
72	-10.22	3.65	.3793	-.30	2.51	.0146	-.0053	-.0808	-.0254

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-10.95	-.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-10.98	2.94	.0015	-.26	2.49
-11.06	2.85	.0068	-.26	2.45
-11.07	3.08	.0039	-.26	2.49
-11.11	3.16	.0028	-.25	2.49
-11.13	3.25	-.0155	-.26	2.49
-11.16	3.28	.0111	-.23	2.49

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-11.79	3.72	.0281	-.27	2.51	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-11.67	3.74	.5870	-.25	2.47	-.0489	.0242	.0331	.0309
24	-11.57	3.75	.5892	-.27	2.49	.1369	.0293	.0187	.0286
36	-11.44	3.79	.5080	-.25	2.48	-.0906	.0197	-.0039	.0208
48	-11.30	3.85	.4573	-.27	2.49	.0328	.0275	-.0134	.0120
60	-11.18	3.87	.4178	-.27	2.49	-.0823	.0196	-.0477	-.0288
72	-11.03	3.89	.3637	-.29	2.50	.0050	.0127	.0090	-.0100

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-11.80	-.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-11.87	3.01	.0118	-.28	2.51
-11.93	3.01	.0195	-.28	2.49
-11.97	3.21	.0361	-.27	2.50
-12.01	3.31	.0385	-.27	2.51
-12.04	3.38	.0498	-.26	2.50
-12.06	3.47	.0267	-.28	2.51

QUADRAVARIATE AND CONDITIONAL BIVARIAT_ NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-12.39	3.90	.0595	-.45	2.62	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-12.26	3.94	.6088	-.42	2.60	-.0072	.0653	.0219	.0710
24	-12.16	3.95	.6177	-.45	2.60	.2201	.0595	.0495	.0793
36	-12.03	3.98	.5247	-.43	2.61	-.0252	.0536	.0379	.0575
48	-11.90	4.02	.4848	-.44	2.62	.0260	.0446	-.0462	.0561
60	-11.75	4.07	.4416	-.44	2.63	-.0364	.0382	.0386	.0341
72	-11.61	4.07	.3998	-.45	2.64	-.0382	.0401	-.0168	.0149

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-12.32	-.48

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-12.43	3.09	.0585	-.45	2.62
-12.49	3.06	.0256	-.46	2.56
-12.54	3.32	.0475	-.46	2.62
-12.59	3.41	.0927	-.44	2.62
-12.63	3.50	.0481	-.47	2.62
-12.66	3.57	.0722	-.44	2.62

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-12.99	4.20	.0619	-.65	2.76	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-12.84	4.23	.6180	-.63	2.77	.3701	.0474	.0355	.0888
24	-12.70	4.23	.6165	-.61	2.76	.1798	.0496	.0102	.1174
36	-12.52	4.26	.5167	-.61	2.75	-.0118	.0468	.0060	.0909
48	-12.37	4.29	.4858	-.60	2.76	.0642	.0522	.0143	.1120
60	-12.18	4.30	.4570	-.62	2.77	-.0670	.0504	.0182	.0171
72	-12.05	4.30	.4082	-.62	2.77	-.0027	.0530	.0520	.0520

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-12.80	-.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-12.97	3.25	.0459	-.66	2.76
-13.06	3.28	.0520	-.67	2.72
-13.13	3.58	.0699	-.65	2.76
-13.20	3.65	.0570	-.66	2.76
-13.26	3.73	.0599	-.66	2.76
-13.29	3.83	.0448	-.68	2.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.32	4.65	.0753	-.93	2.66	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-13.15	4.63	.6373	-.95	2.68	.1427	.0462	.0240	.0696
24	-13.02	4.64	.6398	-.94	2.67	.1982	.0480	.0535	.0749
36	-12.82	4.66	.5573	-.92	2.66	.0335	.0453	-.0008	.0948
48	-12.56	4.69	.5447	-.91	2.64	.0456	.0576	.0511	.1445
60	-12.46	4.71	.4642	-.92	2.65	-.0671	.0510	.0022	.0570
72	-12.33	4.73	.4594	-.93	2.63	-.0330	.0548	.0991	.0826

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.18	-.96

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-13.34	3.58	.0713	-.94	2.63
-13.43	3.57	.0432	-.94	2.60
-13.53	3.85	.0888	-.94	2.66
-13.61	3.86	.0514	-.95	2.65
-13.66	4.11	.0867	-.93	2.65
-13.71	4.12	.0368	-.98	2.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.57	5.13	-.0414	-1.02	3.02	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-13.37	5.10	.6492	-1.06	3.03	.1768	-.0421	.0124	.0434
24	-13.18	5.15	.6705	-1.05	3.02	.1590	-.0280	-.0043	.0412
36	-12.94	5.11	.5820	-1.07	3.01	.0116	-.0110	.0141	.0775
48	-12.76	5.15	.5877	-1.05	3.01	.0214	-.0072	-.0289	.0791
60	-12.56	5.16	.5069	-1.10	2.99	-.0127	-.0118	.0024	.0773
72	-12.40	5.21	.5212	-1.10	2.97	.0189	-.0075	-.0098	.0908

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.23	-1.05

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-13.48	3.88	-.0833	-1.01	2.97
-13.61	3.79	-.0659	-1.02	2.98
-13.74	4.15	-.0626	-1.02	3.02
-13.85	4.13	-.0326	-1.01	3.02
-13.90	4.40	-.0485	-1.02	3.02
-13.99	4.35	-.0449	-1.01	3.02

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT MN.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9	1/56 - 12/70	0	90.0	-1.59	2.77	.2344	-.24	2.70	900
9	1/56 - 12/70	1	90.0	-2.26	5.65	.2675	.40	4.93	900
9	1/56 - 12/70	2	90.0	-.93	5.99	.2796	.42	4.77	900
9	1/56 - 12/70	3	90.0	-.01	6.01	.2608	.52	4.63	900
9	1/56 - 12/70	4	90.0	.59	6.01	.2804	.56	4.62	900
9	1/56 - 12/70	5	90.0	.89	6.21	.3041	.39	4.89	900
9	1/56 - 12/70	6	90.0	1.10	6.44	.3035	.20	5.28	900
9	1/56 - 12/70	7	90.0	1.54	6.94	.3467	.23	5.76	900
9	1/56 - 12/70	8	90.0	2.20	7.56	.3835	.11	6.33	900
9	1/56 - 12/70	9	90.0	3.10	8.17	.3868	.10	7.00	900
9	1/56 - 12/70	10	90.0	3.99	9.06	.3811	-.14	8.01	900
9	1/56 - 12/70	11	90.0	4.85	10.03	.3785	-.49	9.02	900
9	1/56 - 12/70	12	90.0	5.85	10.63	.3403	-1.09	9.93	900
9	1/56 - 12/70	13	90.0	5.96	10.90	.3121	-1.77	10.36	900
9	1/56 - 12/70	14	90.0	4.91	10.16	.2684	-2.46	9.48	900
9	1/56 - 12/70	15	90.0	2.68	8.57	.2226	-2.41	7.22	900
9	1/56 - 12/70	16	90.0	.23	6.62	.3031	-1.98	5.15	900
9	1/56 - 12/70	17	90.0	-1.81	5.38	.2206	-1.21	3.71	900
9	1/56 - 12/70	18	90.0	-3.89	4.43	.2028	-.75	3.01	900
9	1/56 - 12/70	19	90.0	-6.10	3.95	.1730	-.64	2.61	900
9	1/56 - 12/70	20	90.0	-8.07	3.89	.1293	-.45	2.42	900
9	1/56 - 12/70	21	90.0	-9.64	3.60	.0294	-.21	2.47	900
9	1/56 - 12/70	22	90.0	-10.99	3.55	-.0208	-.27	2.50	900
9	1/56 - 12/70	23	90.0	-11.79	3.72	.0281	-.27	2.51	900
9	1/56 - 12/70	24	90.0	-12.39	3.90	.0595	-.45	2.62	900
9	1/56 - 12/70	25	90.0	-12.99	4.20	.0619	-.65	2.76	900
9	1/56 - 12/70	26	90.0	-13.32	4.65	.0753	-.93	2.66	900
9	1/56 - 12/70	27	90.0	-13.57	5.13	-.0414	-1.02	3.02	900

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.16	3.18	.0349	-1.18	2.89	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.13	3.19	.6181	-1.19	2.89	.6390	.0333	.1234	-.0496
24	-1.10	3.19	.5469	-1.20	2.89	.4752	.0303	.1477	-.1108
36	-1.06	3.20	.2921	-1.22	2.88	.2737	.0254	.1377	-.1038
48	-1.02	3.20	.2302	-1.24	2.89	.1618	.0171	.0838	-.0501
60	-.99	3.23	.0658	-1.25	2.89	.0740	.0147	.0265	-.0473
72	-.95	3.23	.0655	-1.28	2.90	.0565	.0140	-.0164	.0007

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.95	-1.34

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.03	2.49	.0053	-1.25	2.20
-1.06	2.63	.0196	-1.23	2.51
-1.11	3.02	.0281	-1.20	2.75
-1.14	3.09	.0253	-1.19	2.84
-1.15	3.16	.0369	-1.18	2.88
-1.16	3.16	.0365	-1.18	2.88

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.02	6.02	.191	-1.15	5.14	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.00	6.08	.7957	-1.19	5.15	.7282	.1842	.2916	.0157
24	-1.96	6.12	.5771	-1.26	5.15	.5213	.1659	.2972	-.0933
36	-1.92	6.16	.3575	-1.31	5.15	.2916	.1838	.2367	-.1205
48	-1.86	6.23	.1939	-1.35	5.17	.1484	.1976	.1601	-.0936
60	-1.81	6.29	.1078	-1.37	5.18	.0608	.1910	.0742	-.0303
72	-1.74	6.36	.0427	-1.44	5.17	.0627	.1941	.0404	.0192

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.56	-1.42

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.63	3.56	.1286	-1.25	3.42
-1.73	4.76	.1780	-1.15	4.26
-1.85	5.50	.1801	-1.12	4.82
-1.94	5.84	.1844	-1.12	5.03
-1.99	5.98	.1878	-1.14	5.12
-2.01	6.01	.1895	-1.14	5.12

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.46	6.20	.2327	-.21	4.89	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.46	6.30	.7766	-.25	4.95	.6757	.2339	.3035	.1091
24	.49	6.32	.5905	-.30	4.95	.5185	.2380	.2857	.0264
36	.53	6.38	.3962	-.32	4.97	.3546	.2440	.2368	-.0219
48	.60	6.51	.2524	-.35	4.98	.2147	.2462	.1644	-.0287
60	.67	6.61	.1657	-.37	5.03	.0948	.2557	.1017	-.0213
72	.73	6.68	.1097	-.40	5.05	.0714	.2550	.0600	.0062

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.90	-.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.81	3.88	.0862	-.25	3.53
.72	4.95	.1770	-.20	4.10
.62	5.64	.2057	-.18	4.54
.54	5.97	.2228	-.19	4.74
.50	6.10	.2259	-.19	4.85
.47	6.16	.2297	-.20	4.87

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.36	6.33	.2111	.27	4.98	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	2.38	6.36	.8031	.20	4.99	.7053	.2063	.2766	.0697
24	2.43	6.40	.6274	.14	4.97	.4963	.2071	.2794	-.0271
36	2.48	6.43	.4404	.12	4.98	.3158	.2189	.2253	-.0741
48	2.57	6.56	.3137	.10	5.01	.2035	.2239	.1611	-.0814
60	2.64	6.64	.2236	.09	5.10	.1233	.2409	.0972	-.0886
72	2.74	6.70	.1781	.06	5.13	.0576	.2426	.0677	-.0521

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.74	.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.66	3.72	.1318	.23	3.46
2.57	4.82	.1665	.29	4.23
2.49	5.57	.1938	.29	4.65
2.42	5.93	.2058	.28	4.84
2.38	6.10	.2143	.27	4.93
2.35	6.20	.2082	.27	4.96

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12958) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.99	6.49	.2022	.38	5.19	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.03	6.51	.8031	.29	5.19	.7262	.1990	.2889	.0644
24	4.09	6.55	.6332	.23	5.18	.5245	.1988	.2759	-.0288
36	4.16	6.56	.4805	.19	5.19	.3232	.2098	.2235	-.0752
48	4.25	6.61	.3686	.15	5.28	.2095	.2207	.1470	-.0910
60	4.39	6.67	.2859	.15	5.38	.1336	.2381	.1019	-.0760
72	4.52	6.77	.2264	.14	5.40	.0909	.2397	.0727	-.0714

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.35	.29

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.25	3.81	.0929	.42	3.48
4.15	4.88	.1628	.44	4.32
4.06	5.57	.1820	.43	4.6.
4.00	5.93	.2005	.41	5.04
3.95	6.14	.2029	.39	5.13
3.92	6.26	.2037	.38	5.16

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.67	6.83	.2566	.26	5.76	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (Y, YP)	R (XP,Y)	R (YP,X)
12	5.74	6.82	.7954	.15	5.77	.7298	.2502	.3255	.1138
24	5.81	6.84	.6401	.09	5.77	.5144	.2489	.2867	.0317
36	5.90	6.85	.4999	.05	5.78	.3409	.2631	.2231	-.0142
48	6.01	6.87	.3872	.02	5.80	.2116	.2740	.1508	-.0367
60	6.16	6.92	.3079	-.00	5.98	.1311	.2907	.1087	-.0282
72	6.33	7.05	.2628	-.01	6.01	.0814	.2944	.0775	-.0059

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.05	.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.91	4.09	.1415	.38	3.84
5.80	5.17	.2093	.38	4.85
5.71	5.83	.2386	.35	5.35
5.64	6.21	.2536	.31	5.60
5.60	6.45	.2517	.28	5.69
5.56	6.56	.2526	.27	5.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.41	7.41	.2589	.31	6.46	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.51	7.42	.8060	.21	6.48	.7163	.2573	.2998	.1296
24	7.60	7.43	.6554	.15	6.53	.5131	.2543	.2691	.0421
36	7.72	7.46	.5203	.11	6.57	.3322	.2656	.1936	-.0069
48	7.87	7.49	.4184	.09	6.67	.2179	.2792	.1269	-.0297
60	8.04	7.57	.3488	.07	6.77	.1477	.2932	.1176	-.0197
72	8.22	7.71	.3031	.07	6.78	.1246	.3045	.1164	-.0041

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.80	.41

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.63	4.34	.1748	.47	4.44
7.51	5.51	.2250	.46	5.46
7.40	6.23	.2524	.41	6.04
7.32	6.63	.2693	.37	6.28
7.27	6.87	.2547	.33	6.36
7.24	7.02	.2487	.31	6.38

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 2/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9.43	8.40	.2499	.27	7.40	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	9.54	8.37	.7961	.20	7.46	.7159	.2527	.2957	.1393
24	9.66	8.36	.6321	.14	7.54	.4889	.2510	.2539	.0555
36	9.81	8.36	.5140	.10	7.61	.3252	.2614	.1857	.0180
48	9.99	8.39	.4386	.10	7.76	.2320	.2749	.1521	.0026
60	10.18	8.46	.3762	.10	7.90	.1791	.2947	.1465	.0098
72	10.38	8.58	.3127	.12	7.91	.1488	.3025	.1472	.0013

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.82	.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.64	5.05	.1391	.47	5.09
9.50	6.44	.2003	.43	6.37
9.38	7.13	.2368	.37	6.95
9.30	7.48	.2407	.33	7.17
9.24	7.73	.2329	.29	7.24
9.21	7.93	.2311	.25	7.27

QUADRAVARIATE AND CONDITIONAL DIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12668) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.77	9.40	.2493	.37	8.53	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	11.89	9.35	.8190	.30	8.63	.7300	.2509	.2735	.1517
24	12.02	9.33	.6655	.23	8.73	.4999	.2443	.2319	.0710
36	12.17	9.31	.5466	.19	8.80	.3403	.2525	.1797	.0259
48	12.39	9.35	.4580	.20	8.93	.2566	.2667	.1603	-.0011
60	12.61	9.41	.3900	.23	9.11	.2058	.2846	.1579	-.0012
72	12.84	9.53	.3337	.27	9.13	.1642	.2939	.1454	.0097

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.18	.58

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.93	5.37	.1636	.59	5.77
11.84	6.96	.2173	.55	7.32
11.72	7.79	.2403	.49	7.97
11.61	8.27	.2414	.44	8.20
11.54	8.58	.2333	.39	8.30
11.50	8.81	.2309	.35	8.37

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14.15	10.74	.2389	.55	10.00	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	14.28	10.69	.8316	.52	10.14	.7551	.2428	.2503	.1508
24	14.40	10.67	.6815	.43	10.23	.5303	.2438	.2066	.0737
36	14.57	10.67	.5625	.39	10.32	.3686	.2512	.1607	.0259
48	14.82	10.72	.4728	.40	10.48	.2840	.2663	.1360	.0068
60	15.07	10.74	.4106	.44	10.68	.2260	.2766	.1384	.0053
72	15.33	10.86	.3667	.52	10.74	.1797	.2801	.1125	.0133

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.59	.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.40	5.94	.1900	.76	6.52
14.25	7.79	.2372	.74	8.44
14.11	8.79	.2491	.68	9.26
13.98	9.37	.2472	.63	9.56
13.90	9.72	.2323	.58	9.70
13.84	9.94	.2340	.54	9.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (MI) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
16.40	12.00	.2173	.77	11.85	930

DT HR	MEAN XP	S.D. XP	R (X XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	16.56	11.95	.8452	.79	11.97	.7780	.2271	.2170	.1614
24	16.70	11.94	.7076	.73	12.03	.5593	.2307	.1668	.0896
36	16.89	11.90	.5903	.67	12.17	.4001	.2355	.1640	.0444
48	17.16	11.92	.4940	.69	12.35	.2971	.2469	.1586	.0232
60	17.43	11.95	.4213	.75	12.62	.2392	.2565	.1479	.0244
72	17.73	12.07	.3691	.79	12.78	.2115	.2701	.1409	.0313

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.85	1.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.64	6.40	.1717	1.00	7.43
16.49	8.43	.2167	.97	9.80
16.34	9.61	.2141	.92	10.83
16.20	10.36	.2023	.85	11.27
16.11	10.83	.1985	.79	11.46
16.05	11.12	.1974	.74	11.54

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.75	13.11	.1921	.67	13.39	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y, YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	18.93	13.04	.8573	.71	13.50	.7989	.2020	.1904	.1652
24	19.12	13.01	.7288	.55	13.60	.5933	.2031	.1683	.1134
36	19.37	12.99	.6143	.62	13.78	.4299	.2037	.1502	.0822
48	19.70	13.00	.5211	.64	13.99	.3239	.2168	.1543	.0525
60	20.00	13.00	.4433	.72	14.32	.2579	.2289	.1493	.0457
72	20.34	13.11	.3869	.76	14.44	.2274	.2382	.1385	.0434

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
19.12	.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
18.91	6.75	.1141	.87	8.04
18.74	8.96	.1631	.84	10.76
18.58	10.33	.1659	.79	12.06
18.41	11.16	.1622	.71	12.62
18.33	11.73	.1618	.63	12.88
18.25	12.07	.1663	.59	12.93

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.41	13.28	.2025	.46	14.12	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	20.63	13.23	.8887	.51	14.24	.8358	.2108	.1920	.1906
24	20.82	13.17	.7469	.51	14.33	.6481	.2115	.1738	.1486
36	21.06	13.12	.6350	.50	14.58	.4893	.2105	.1564	.1125
48	21.40	13.14	.5482	.51	14.78	.3701	.2227	.1810	.0906
60	21.72	13.16	.4675	.57	15.12	.2869	.2371	.1572	.0605
72	22.07	13.22	.4057	.62	15.23	.2424	.2465	.1464	.0591

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
20.64	.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
20.42	6.58	.1083	.60	7.75
20.28	8.80	.1584	.56	10.74
20.14	10.25	.1667	.51	12.29
19.98	11.10	.1620	.45	13.07
19.89	11.73	.1626	.37	13.46
19.81	12.13	.1724	.33	13.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.64	12.97	.2279	-.27	13.05	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	20.82	12.89	.8568	-.24	13.17	.8415	.2342	.2165	.2065
24	21.03	12.81	.7451	-.20	13.26	.6822	.2356	.1895	.1683
36	21.30	12.76	.6405	-.22	13.52	.5319	.2363	.1698	.1414
48	21.64	12.79	.5533	-.19	13.71	.4112	.2525	.1617	.1135
60	21.96	12.86	.4881	-.10	14.05	.3251	.1670	.1461	.0936
72	22.30	12.92	.4276	-.05	14.14	.2714	.2745	.1363	.0856

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
20.70	-.15

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
20.53	6.69	.1346	-.19	7.04
20.39	8.65	.1880	-.24	9.53
20.25	9.96	.1928	-.26	11.03
20.10	10.79	.1964	-.31	11.87
20.00	11.31	.2040	-.36	12.31
19.94	11.71	.2048	-.40	12.53

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
19.03	11.96	.2371	-.85	10.83	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	19.23	11.91	.8472	-.83	10.93	.8320	.2443	.2464	.1943
24	19.47	11.84	.7301	-.81	10.97	.6854	.2504	.2207	.1522
36	19.70	11.81	.6225	-.82	11.17	.5417	.2592	.1919	.1129
48	20.04	11.78	.5462	-.81	11.40	.4228	.2677	.1721	.0888
60	20.28	11.78	.4763	-.76	11.70	.3430	.2833	.1495	.0702
72	20.59	11.83	.4181	-.68	11.78	.2881	.2911	.1486	.0634

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.90	-.77

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
18.75	6.35	.1318	-.82	5.99
18.60	8.16	.1949	-.84	7.85
18.51	9.34	.2185	-.86	9.08
18.37	9.99	.2202	-.90	9.79
18.33	10.49	.2275	-.92	10.16
18.29	10.84	.2201	-.98	10.34

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.81	10.19	.2427	-.82	8.51	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	16.02	10.16	.8526	-.82	8.60	.8088	.2454	.2828	.1732
24	16.26	10.15	.7404	-.83	8.67	.6595	.2486	.2692	.1236
36	16.48	10.13	.6255	-.77	8.82	.5176	.2561	.2359	.0856
48	16.75	10.12	.5417	-.77	9.02	.4077	.2712	.2077	.0673
60	16.99	10.12	.4482	-.71	9.26	.3045	.2894	.1750	.0548
72	17.26	10.19	.3970	-.66	9.33	.2428	.3000	.1399	.0497

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
15.69	-.69

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
15.53	5.32	.0831	-.75	4.95
15.37	6.82	.1638	-.79	6.33
15.29	7.91	.1996	-.86	7.22
15.20	8.52	.2111	-.89	7.72
15.19	9.07	.2191	-.92	8.07
15.16	9.32	.2287	-.93	8.23

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.38	8.36	.2566	-.72	6.53	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	11.57	8.34	.8441	-.73	6.59	.7765	.2650	.3074	.1724
24	11.74	8.34	.7553	-.71	6.63	.6415	.2600	.2904	.1035
36	11.99	8.34	.6439	-.70	6.77	.4789	.2714	.2677	.0852
48	12.20	8.40	.5539	-.66	6.96	.3847	.2777	.2300	.0742
60	12.45	8.47	.4910	-.62	7.15	.2783	.3001	.1984	.0774
72	12.66	8.53	.4385	-.58	7.24	.2317	.3053	.1604	.0733

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.33	-.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.17	4.46	.1070	-.69	4.05
11.05	5.43	.1832	-.73	4.34
10.93	6.35	.1871	-.78	5.65
10.87	6.87	.2072	-.82	5.96
10.82	7.26	.2127	-.84	6.22
10.79	7.50	.2287	-.84	6.32

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.85	7.02	.2867	-.39	4.76	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.01	7.04	.8143	-.41	4.79	.6321	.2976	.3338	.2284
24	7.17	7.06	.7606	-.39	4.84	.5916	.2932	.3300	.1513
36	7.33	7.07	.6585	-.40	4.92	.3676	.2937	.3075	.1244
48	7.52	7.11	.5915	-.35	5.05	.3197	.2947	.2686	.0982
60	7.67	7.14	.5103	-.34	5.11	.1813	.3115	.2110	.1011
72	7.85	7.17	.4562	-.30	5.20	.1741	.3212	.1711	.0899

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.84	-.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.71	4.07	.0522	-.36	3.62
6.58	4.53	.1483	-.39	3.76
6.51	5.26	.1548	-.44	4.32
6.43	5.63	.1934	-.47	4.43
6.41	6.02	.2240	-.48	4.62
6.38	6.23	.2493	-.48	4.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.96	5.84	.2876	-.41	3.65	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.09	5.87	.7652	-.39	3.67	.4969	.2928	.2941	.1754
24	3.23	5.88	.7457	-.37	3.70	.5198	.2939	.3265	.1433
36	3.35	5.91	.6047	-.38	3.75	.2482	.2827	.2680	.0827
48	3.49	5.92	.5852	-.35	3.84	.2228	.2956	.2554	.1003
60	3.60	5.96	.4908	-.31	3.89	.0935	.2906	.2118	.0722
72	3.77	6.01	.4678	-.28	3.95	.0738	.2973	.2148	.0993

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.00	-.42

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.89	3.75	.1540	-.43	3.12
2.79	3.87	.1436	-.45	3.05
2.75	4.62	.1837	-.46	3.45
2.68	4.72	.1933	-.48	3.48
2.67	5.07	.2195	-.48	3.56
2.61	5.16	.2175	-.51	3.56

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.12	5.00	.2016	-.45	3.11	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.27	5.06	.7014	-.43	3.13	.2265	.2097	.2235	.1866
24	.41	5.10	.7213	-.42	3.16	.3938	.2258	.1650	.1054
36	.54	5.13	.6828	-.39	3.20	.1229	.2265	.1961	.1618
48	.66	5.18	.5658	-.37	3.28	.1660	.2427	.1544	.1153
60	.77	5.19	.4819	-.33	3.31	-.0317	.2345	.1621	.0888
72	.88	5.17	.4332	-.34	3.33	.0344	.2462	.0929	.0725

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.06	-.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.03	3.56	.0549	-.48	2.98
-.13	3.45	.1418	-.49	2.84
-.17	3.91	.1017	-.51	3.04
-.21	4.12	.1452	-.51	3.04
-.21	4.38	.1412	-.52	3.06
-.23	4.50	.1804	-.50	3.10

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.68	4.61	.1544	-.31	2.85	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.55	4.66	.6546	-.33	2.86	.3071	.1586	.1373	.1051
24	-1.45	4.68	.7015	-.31	2.88	.3764	.1591	.1472	.1160
36	-1.35	4.71	.5661	-.31	2.89	.0855	.1548	.1096	.1062
48	-1.21	4.74	.5769	-.25	2.96	.1155	.1619	.0907	.1139
60	-1.09	4.76	.4813	-.25	3.07	-.0388	.1670	.0797	.0889
72	-.97	4.76	.4719	-.23	3.08	.0148	.1751	.0800	.1269

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.78	-.29

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.83	3.49	.0897	-.31	2.70
-1.91	3.29	.0754	-.32	2.63
-1.92	3.80	.1115	-.33	2.83
-2.00	3.77	.1236	-.34	2.82
-2.00	4.04	.1335	-.34	2.84
-2.05	4.06	.1433	-.34	2.85

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.65	4.32	.1694	-.39	2.70	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.53	4.35	.6272	-.38	2.70	.1013	.1641	.0597	.1185
24	-2.40	4.38	.6656	-.39	2.70	.3691	.1641	.1104	.1300
36	-2.28	4.43	.5527	-.40	2.71	.0356	.1675	.0630	.1049
48	-2.17	4.50	.5655	-.39	2.76	.1090	.1909	.0566	.1053
60	-2.05	4.55	.4937	-.37	2.80	-.0479	.1951	.0251	.0834
72	-1.90	4.63	.4747	-.36	2.79	-.0514	.1974	.0296	.0847

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.77	-.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.80	3.36	.1686	-.40	2.68
-2.90	3.14	.1294	-.41	2.51
-2.91	3.60	.1615	-.40	2.69
-2.99	3.56	.1681	-.40	2.68
-2.99	3.75	.1804	-.40	2.70
-3.03	3.80	.1763	-.40	2.69

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.26	4.36	.0642	-.52	2.81	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-3.13	4.37	.6531	-.50	2.80	.1906	.0654	.0455	.1264
24	-2.97	4.43	.6986	-.51	2.83	.3368	.0802	.0777	.0590
36	-2.83	4.47	.5995	-.50	2.81	.0988	.0656	.0159	.1130
48	-2.70	4.56	.5883	-.53	2.81	.1194	.1049	.0025	.0854
60	-2.58	4.58	.5061	-.49	2.83	-.0802	.1068	-.0203	.0954
72	-2.46	4.63	.4814	-.50	2.83	-.0056	.1029	-.0349	.0985

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.42	-.62

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.46	3.28	.0253	-.54	2.76
-3.57	3.12	.0133	-.57	2.64
-3.61	3.48	.0813	-.53	2.80
-3.67	3.52	.0746	-.52	2.79
-3.67	3.75	.0907	-.50	2.80
-3.70	3.81	.0928	-.50	2.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.68	4.63	.0639	-.50	2.75	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-3.55	4.68	.6751	-.49	2.77	.1643	.0651	-.0305	.0852
24	-3.37	4.72	.6782	-.50	2.77	.3065	.0692	.0280	.0786
36	-3.21	4.78	.6123	-.51	2.77	.0287	.0806	-.0470	.0978
48	-3.08	4.85	.5744	-.50	2.78	.0188	.0888	-.0492	.0502
60	-2.92	4.91	.5020	-.48	2.80	-.0609	.1119	-.0740	.0548
72	-2.79	4.96	.4733	-.48	2.82	-.0791	.1180	-.0862	.0105

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.88	-.55

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.91	3.41	.1069	-.51	2.71
-4.02	3.40	.0504	-.52	2.62
-4.08	3.66	.1157	-.49	2.74
-4.12	3.79	.1128	-.48	2.74
-4.14	4.01	.1173	-.46	2.74
-4.16	4.08	.1162	-.45	2.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.72	4.86	.0535	-.46	2.78	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-3.57	4.91	.7291	-.46	2.77	.1999	.0557	.0230	.0855
24	-3.38	4.96	.7406	-.44	2.79	.2704	.0576	.0287	.0751
36	-3.22	5.03	.6389	-.43	2.79	.0095	.0687	-.0421	.0911
48	-3.06	5.13	.6045	-.41	2.81	.0151	.0789	-.0449	.0797
60	-2.91	5.20	.5323	-.39	2.82	-.0881	.1010	-.0730	.0818
72	-2.74	5.25	.5082	-.38	2.84	-.0776	.1038	-.0831	.0753

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.80	-.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.89	3.32	.0416	-.46	2.72
-4.02	3.26	.0364	-.47	2.67
-4.07	3.73	.1041	-.45	2.77
-4.14	3.87	.1007	-.45	2.77
-4.16	4.11	.1126	-.43	2.76
-4.22	4.19	.1137	-.42	2.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.39	5.21	.0845	-.55	2.92	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-3.21	5.30	.7535	-.55	2.91	.2624	.0854	.0498	.1182
24	-3.01	5.39	.7406	-.54	2.93	.3054	.1077	.0455	.1197
36	-2.82	5.49	.6602	-.51	2.95	.0541	.1325	-.0123	.1526
48	-2.63	5.59	.6251	-.48	2.98	.0608	.1511	-.0082	.1278
60	-2.45	5.71	.5731	-.45	3.02	-.0928	.1761	-.0353	.1585
72	-2.27	5.75	.5331	-.46	3.06	-.0738	.1783	-.0230	.1531

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.37	-.51

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.50	3.40	.0523	-.54	2.82
-3.64	3.50	.0606	-.54	2.78
-3.73	3.90	.1191	-.54	2.91
-3.82	4.07	.1125	-.54	2.91
-3.87	4.26	.1351	-.53	2.91
-3.92	4.40	.1199	-.54	2.91

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.75	5.83	.1502	-.64	3.06	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-2.55	5.89	.6051	-.59	3.04	.2128	.1529	.0985	.1765
24	-2.31	5.98	.7859	-.60	3.07	.2779	.1654	.1254	.1380
36	-2.13	6.03	.7209	-.59	3.10	.0484	.1902	.0603	.1557
48	-1.91	6.20	.6720	-.55	3.14	.0733	.2098	.0523	.1591
60	-1.69	6.31	.6213	-.53	3.17	-.0583	.2141	.0416	.1393
72	-1.47	6.39	.5906	-.54	3.23	.0105	.2036	.0221	.0933

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.56	-.71

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.77	3.44	.1045	-.67	2.98
-2.94	3.59	.0841	-.68	2.93
-3.05	4.04	.1534	-.66	3.05
-3.16	4.31	.1545	-.67	3.05
-3.24	4.56	.1599	-.66	3.05
-3.33	4.70	.1703	-.66	3.06

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12668) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.96	6.15	.1192	-.76	3.23	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-1.71	6.25	.7943	-.71	3.21	.2054	.1260	.0481	.1065
24	-1.49	6.41	.7912	-.71	3.22	.3129	.1441	.0750	.1279
36	-1.25	6.55	.7321	-.68	3.26	.0301	.1581	.0262	.1358
48	-1.01	6.66	.6847	-.67	3.33	.0826	.1728	.0359	.1455
60	-.79	6.78	.6149	-.65	3.34	-.0348	.1624	-.0084	.1371
72	-.57	6.89	.5806	-.68	3.39	.0039	.1474	.0060	.1034

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.33	-.89

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.44	3.75	.1340	-.81	3.16
-2.60	3.77	.0957	-.83	3.06
-2.70	4.20	.1463	-.78	3.22
-2.80	4.49	.1274	-.80	3.21
-2.82	4.65	.1596	-.75	3.22
-2.88	5.02	.1421	-.77	3.23

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10	1/56 - 12/70	0	90.0	-1.15	3.18	.0349	-1.18	2.89	930
10	1/56 - 12/70	1	90.0	-2.02	6.02	.1913	-1.15	5.14	930
10	1/56 - 12/70	2	90.0	.46	6.20	.2327	-.21	4.89	930
10	1/56 - 12/70	3	90.0	2.36	6.33	.2111	.27	4.98	930
10	1/56 - 12/70	4	90.0	3.99	6.49	.2022	.38	5.19	930
10	1/56 - 12/70	5	90.0	5.67	6.83	.2556	.26	5.76	930
10	1/56 - 12/70	6	90.0	7.41	7.41	.2599	.31	6.46	930
10	1/56 - 12/70	7	90.0	9.43	8.40	.2499	.27	7.40	930
10	1/56 - 12/70	8	90.0	11.77	9.40	.2493	.37	8.53	930
10	1/56 - 12/70	9	90.0	14.15	10.74	.2389	.55	10.0[illegible]	930
10	1/56 - 12/70	10	90.0	16.40	12.00	.2173	.77	11.95	930
10	1/56 - 12/70	11	90.0	18.75	13.11	.1921	.67	13.39	930
10	1/56 - 12/70	12	90.0	20.41	13.28	.2025	.46	14.12	930
10	1/56 - 12/70	13	90.0	20.64	12.97	.2279	-.27	13.05	930
10	1/56 - 12/70	14	90.0	19.03	11.96	.2371	-.85	10.83	930
10	1/56 - 12/70	15	90.0	15.81	10.19	.2427	-.82	8.51	930
10	1/56 - 12/70	16	90.0	11.38	8.36	.2586	-.72	6.53	930
10	1/56 - 12/70	17	90.0	6.65	7.02	.2857	-.39	4.76	930
10	1/56 - 12/70	18	90.0	2.96	5.84	.2876	-.41	3.65	930
10	1/56 - 12/70	19	90.0	.12	5.00	.2015	-.45	3.11	930
10	1/56 - 12/70	20	90.0	-1.68	4.61	.1544	-.31	2.85	930
10	1/56 - 12/70	21	90.0	-2.65	4.32	.1694	-.39	2.70	930
10	1/56 - 12/70	22	90.0	-3.26	4.36	.0642	-.52	2.81	930
10	1/56 - 12/70	23	90.0	-3.68	4.63	.0639	-.50	2.75	930
10	1/56 - 12/70	24	90.0	-3.72	4.86	.0535	-.46	2.78	930
10	1/56 - 12/70	25	90.0	-3.39	5.21	.0845	-.55	2.92	930
10	1/56 - 12/70	26	90.0	-2.75	5.83	.1502	-.64	3.06	930
10	1/56 - 12/70	27	90.0	-1.96	6.16	.1192	-.76	3.23	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.04	2.90	-.2098	-1.11	2.82	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.09	2.91	.5329	-1.13	2.82	.5071	-.2061	.0918	-.2953
24	.10	2.93	.4102	-1.16	2.81	.2690	-.2126	.1710	-.2371
36	.09	2.94	.1626	-1.18	2.82	.0727	-.2122	.1665	-.1101
48	.07	2.94	.1197	-1.19	2.82	-.0109	-.2176	.1509	-.0442
60	.06	2.92	-.0120	-1.18	2.83	-.0237	-.2193	.0759	.0474
72	.06	2.90	.0374	-1.16	2.84	.0036	-.2107	.0109	.0549

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.10	-1.16

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.05	2.40	-.2269	-1.16	2.36
-.03	2.61	-.2763	-1.16	2.64
.01	2.86	-.2410	-1.15	2.75
.02	2.88	-.2318	-1.14	2.79
.04	2.90	-.2094	-1.12	2.81
.03	2.89	-.2114	-1.11	2.82

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.18	6.87	.1475	-.66	5.34	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.25	6.88	.7437	-.70	5.33	.6636	.1395	.3397	-.1231
24	.24	6.89	.4983	-.74	5.33	.3475	.1313	.4020	-.1601
36	.18	6.88	.3144	-.77	5.33	.1396	.1273	.3194	-.0939
48	.11	6.86	.2143	-.79	5.33	.0144	.1174	.2004	-.0157
60	.08	6.82	.1671	-.78	5.33	-.0039	.1117	.1106	.0548
72	.07	6.78	.1454	-.75	5.33	.0348	.1126	.0601	.1128

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.32	-.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.24	4.31	-.0214	-.85	3.63
-.10	5.79	.0252	-.84	4.62
.01	6.45	.0683	-.78	5.03
.08	6.70	.1089	-.73	5.23
.11	6.77	.1326	-.70	5.30
.12	6.76	.1384	-.68	5.33

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.84	7.32	.1798	-.18	5.34	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	2.95	7.33	.7696	-.18	5.29	.6229	.1685	.3721	-.0866
24	3.02	7.35	.5589	-.24	5.30	.3446	.1554	.3660	-.1183
36	2.98	7.32	.3870	-.29	5.27	.1311	.1478	.2980	-.0824
48	2.95	7.23	.2680	-.32	5.24	.0163	.1454	.1899	-.0164
60	2.91	7.15	.1904	-.32	5.19	-.0260	.1352	.0967	.0528
72	2.92	7.12	.1681	-.31	5.16	.0008	.1327	.0322	.1057

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.34	-.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.39	4.44	.0148	-.38	3.92
2.47	5.88	.0504	-.36	4.72
2.59	6.67	.0883	-.32	5.07
2.67	7.04	.1359	-.27	5.24
2.73	7.19	.1665	-.22	5.31
2.75	7.19	.1779	-.20	5.34

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.47	7.69	.1970	-.17	5.66	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	5.59	7.73	.7755	-.17	5.66	.6292	.1955	.3773	-.0294
24	5.67	7.76	.5858	-.21	5.66	.3383	.1895	.3864	-.0527
36	5.69	7.74	.4164	-.27	5.64	.1607	.1839	.3047	-.0158
48	5.66	7.66	.3105	-.30	5.61	.0717	.1790	.2025	.0442
60	5.69	7.59	.2422	-.33	5.51	.0510	.1705	.1431	.0873
72	5.70	7.56	.1891	-.31	5.50	.0443	.1714	.0770	.0644

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.84	-.35

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.91	4.64	.0202	-.42	4.14
5.00	6.08	.0264	-.41	4.99
5.12	6.95	.0936	-.36	5.35
5.22	7.31	.1447	-.29	5.54
5.27	7.45	.1680	-.26	5.60
5.31	7.55	.1855	-.22	5.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.82	8.00	.2164	-.25	6.31	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.94	8.06	.7926	-.26	6.34	.6339	.2117	.3957	.0208
24	8.04	8.09	.5914	-.29	6.34	.3479	.2119	.3824	-.0265
36	8.10	8.08	.4136	-.34	6.31	.1799	.2072	.2932	-.0027
48	8.14	8.05	.2871	-.35	6.21	.0781	.2032	.1974	.0553
60	8.14	8.01	.2072	-.39	6.13	.0339	.1976	.1253	.0874
72	8.14	7.96	.1509	-.38	6.12	.0039	.2001	.0692	.0590

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.26	-.48

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.30	4.73	-.0100	-.52	4.60
7.38	6.33	.0468	-.50	5.57
7.47	7.25	.1235	-.44	5.98
7.57	7.66	.1703	-.39	6.18
7.64	7.82	.1959	-.34	6.26
7.69	7.91	.2090	-.30	6.30

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.40	8.73	.2569	-.27	7.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	10.55	8.83	.7785	-.25	7.03	.6684	.2594	.4019	.0537
24	10.68	8.89	.5746	-.26	7.01	.4103	.2614	.3887	-.0076
36	10.77	8.89	.4069	-.33	6.98	.2481	.2593	.2958	-.0007
48	10.82	8.89	.2711	-.33	6.87	.1260	.2598	.2100	.0358
60	10.83	8.84	.1871	-.35	6.78	.0740	.2573	.1320	.0645
72	10.82	8.80	.1281	-.36	6.76	.0486	.2597	.0651	.0739

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.95	-.63

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.99	5.32	.0787	-.61	4.94
10.04	7.00	.1239	-.56	6.05
10.09	7.92	.1633	-.48	6.57
10.18	8.40	.2160	-.42	6.83
10.24	8.58	.2380	-.35	6.94
10.29	8.65	.2502	-.32	6.98

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.12	9.62	.3025	-.23	7.95	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	P (YP,X)
12	13.27	9.68	.7769	-.21	7.99	.7107	.3040	.4034	.0987
24	13.43	9.75	.5712	-.24	7.95	.4623	.3116	.3690	.0235
36	13.54	9.74	.4167	-.31	7.90	.3144	.3114	.2947	.0229
48	13.53	9.72	.2784	-.32	7.80	.2104	.3116	.2135	.0382
60	13.60	9.67	.1884	-.34	7.73	.1281	.3075	.1414	.0609
72	13.61	9.61	.1259	-.36	7.70	.0896	.3066	.0694	.0729

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.63	-.57

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.66	5.90	.1889	-.57	5.37
12.69	7.74	.2199	-.52	6.80
12.75	8.68	.2465	-.45	7.37
12.85	9.24	.2710	-.40	7.67
12.94	9.45	.2846	-.34	7.84
13.00	9.54	.2952	-.28	7.91

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12863) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.89	10.26	.3124	-.27	9.12	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	16.08	10.37	.8073	-.29	9.13	.7186	.3166	.3933	.1457
24	16.25	10.46	.6013	-.32	9.06	.4910	.3242	.3493	.0681
36	16.37	10.49	.4354	-.37	9.00	.3414	.3255	.2892	.0378
48	16.48	10.50	.2960	-.39	8.86	.2404	.3236	.2228	.0300
60	16.52	10.48	.1994	-.44	8.74	.1547	.3196	.1527	.0437
72	16.54	10.42	.1311	-.46	8.72	.1021	.3181	.0852	.0597

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
15.42	-.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
15.38	5.93	.1730	-.59	6.14
15.41	8.08	.2335	-.55	7.73
15.48	9.16	.2616	-.50	8.40
15.58	9.77	.2834	-.46	8.74
15.67	10.05	.2955	-.40	8.96
15.75	10.17	.3044	-.34	9.06

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.90	11.18	.3210	-.44	10.47	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	19.10	11.35	.8014	-.48	10.46	.7293	.3273	.3803	.1741
24	19.31	11.48	.6045	-.51	10.40	.5080	.3347	.3338	.0932
36	19.46	11.53	.4449	-.55	10.34	.3739	.3356	.2694	.0565
48	19.59	11.56	.3137	-.57	10.21	.2774	.3330	.2165	.0405
60	19.67	11.54	.2250	-.63	10.05	.1885	.3320	.1486	.0318
72	19.69	11.49	.1514	-.67	10.01	.1176	.3269	.0892	.0384

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.31	-.85

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
18.29	6.61	.1915	-.81	6.98
18.31	8.81	.2525	-.76	8.83
18.40	9.95	.2834	-.71	9.58
18.51	10.59	.2972	-.67	9.96
18.59	10.88	.3092	-.60	10.24
18.69	11.05	.3150	-.53	10.38

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
21.89	12.13	.3635	-.27	11.81	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
21.28	-.74

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	22.10	12.30	.8082	-.34	11.74	.7560	.3733	.3972	.2286	21.24	7.07	.2550	-.66	7.59
24	22.36	12.44	.6116	-.35	11.67	.5392	.3792	.3371	.1208	21.25	9.48	.3247	-.62	9.80
36	22.54	12.54	.4599	-.38	11.58	.4099	.3810	.2911	.0527	21.32	10.70	.3298	-.59	10.63
48	22.69	12.58	.3460	-.40	11.45	.3234	.3793	.2507	.0746	21.41	11.35	.3331	-.56	11.05
60	22.81	12.60	.2554	-.44	11.31	.2196	.3946	.1833	.0573	21.50	11.71	.3458	-.49	11.45
72	22.83	12.55	.1963	-.50	11.26	.1441	.3812	.1344	.0531	21.58	11.89	.3513	-.43	11.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
24.84	13.28	.3938	-.31	13.35	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	25.07	13.48	.8067	-.40	13.29	.7841	.4010	.4030	.2852
24	25.36	13.63	.6238	-.41	13.22	.5837	.4052	.3465	.1828
36	25.55	13.76	.4792	-.44	13.12	.4480	.4102	.3046	.1440
48	25.74	13.85	.3699	-.42	12.96	.3491	.4113	.2616	.1354
60	25.84	13.83	.2842	-.50	12.76	.2468	.4172	.1970	.1084
72	25.88	13.77	.2274	-.55	12.70	.1696	.4132	.1467	.0779

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
24..?	-.86

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
24.08	7.83	.2663	-.75	8.19
24.08	10.33	.3438	-.71	10.72
24.17	11.63	.3464	-.68	11.81
24.26	12.33	.3501	-.67	12.33
24.37	12.73	.3679	-.57	12.87
24.45	12.93	.3792	-.51	13.11

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
27.83	13.80	.3865	-.45	14.85	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	28.10	14.09	.8191	-.59	14.79	.8088	.3912	.3761	.3059
24	28.36	14.26	.6424	-.60	14.74	.6221	.3971	.3375	.2142
36	28.53	14.36	.4979	-.63	14.56	.4762	.4055	.3001	.1699
48	29.68	14.43	.3397	-.63	14.38	.3820	.4067	.2645	.1556
60	28.78	14.43	.3199	-.74	14.13	.2783	.4140	.2176	.*382
72	28.80	14.36	.2616	-.81	14.04	.1938	.4115	.1693	.0924

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
26.93	-1.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
26.89	7.91	.2683	-.94	8.68
26.94	10.56	.3254	-.91	11.54
27.06	11.96	.3330	-.87	12.93
27.16	12.66	.3370	-.85	13.61
27.27	13.08	.3492	-.77	14.17
27.35	13.32	.3658	-.71	14.50

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
29.90	14.03	.4052	-.68	15.47	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	30.12	14.25	.8251	-.80	15.39	.8164	.4069	.3832	.3308
24	30.43	14.45	.6432	-.86	15.34	.6351	.4110	.3353	.2316
36	30.63	14.53	.5042	-.86	15.14	.4905	.4235	.3048	.1763
48	30.78	14.56	.4134	-.84	14.94	.3921	.4249	.2691	.1349
60	30.90	14.57	.3272	-.94	14.64	.2896	.4321	.2350	.1015
72	30.94	14.53	.2692	-1.00	14.58	.1907	.4259	.1830	.0598

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.02	-1.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
29.00	7.93	.2853	-1.25	8.89
29.02	10.73	.3550	-1.16	11.88
29.11	12.10	.3592	-1.14	13.38
29.19	12.76	.3708	-1.12	14.12
29.29	13.24	.3767	-1.07	14.69
29.38	13.48	.3878	-1.00	15.09

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
30.24	13.15	.3793	-.46	14.16	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	30.49	13.29	.8104	-.52	14.11	.8389	.3872	.3755	.3047
24	30.73	13.44	.6206	-.58	14.04	.6843	.3965	.3373	.2299
36	30.92	13.52	.4934	-.59	13.81	.5422	.4038	.3057	.1730
48	31.05	13.49	.3897	-.56	13.62	.4292	.4060	.2655	.1259
60	31.15	13.43	.3152	-.65	13.27	.3139	.4102	.2274	.0960
72	31.23	13.40	.2593	-.71	13.23	.2099	.4043	.1694	.0608

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.30	-1.64

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
29.29	7.70	.2597	-1.45	7.67
29.38	10.31	.3174	-1.27	10.27
29.47	11.43	.3328	-1.17	11.82
29.59	12.10	.3489	-1.09	12.71
29.68	12.47	.3537	-.97	13.35
29.76	12.68	.3651	-.83	13.78

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
28.33	11.84	.3742	-.65	11.93	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	28.57	12.09	.8044	-.72	11.85	.8256	.3812	.3975	.2994
24	28.79	12.25	.6528	-.77	11.79	.6750	.3872	.3761	.2220
36	28.99	12.34	.5151	-.79	11.61	.5418	.3866	.3140	.1690
48	29.11	12.40	.4063	-.76	11.38	.4280	.3693	.2836	.1278
60	29.32	12.39	.3141	-.83	11.09	.3205	.3305	.2461	.0876
72	29.41	12.35	.2436	-.93	11.02	.2134	.3841	.2026	.0549

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
27.26	-1.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
27.30	7.03	.1818	-1.34	6.63
27.37	8.96	.2617	-1.27	8.65
27.48	10.14	.3187	-1.18	9.91
27.61	10.81	.3309	-1.16	10.65
27.71	11.23	.3441	-1.10	11.16
27.82	11.47	.3528	-1.03	11.52

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
24.47	9.90	.3551	-.42	9.68	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	24.65	10.06	.7951	-.45	9.62	.8096	.3620	.4131	.2509
24	24.84	10.24	.6549	-.46	9.56	.6645	.3692	.3804	.1770
36	25.01	10.32	.5260	-.52	9.43	.5246	.3705	.3298	.1243
48	25.14	10.34	.4287	-.54	9.25	.4091	.3645	.2838	.0916
60	25.30	10.34	.3386	-.62	9.00	.2858	.3611	.2508	.0467
72	25.39	10.28	.2599	-.69	8.95	.1756	.3541	.2024	.0141

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
23.46	-1.14

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
23.55	5.99	.1578	-1.11	5.55
23.61	7.45	.2635	-1.04	7.10
23.69	8.38	.3020	-.94	8.12
23.78	8.92	.3128	-.89	8.71
23.86	9.28	.3241	-.83	9.15
23.97	9.52	.3331	-.77	9.42

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.01	8.48	.3104	-.42	8.07	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	20.19	8.57	.7766	-.44	8.04	.8077	.3130	.3538	.1894
24	20.40	8.60	.6449	-.44	8.00	.6604	.3240	.3478	.1213
36	20.53	8.63	.5277	-.49	7.89	.5042	.3273	.3169	.0521
48	20.65	8.62	.4261	-.50	7.76	.3856	.3280	.2635	.0334
60	20.74	8.56	.3422	-.55	7.59	.2627	.3179	.2169	.0016
72	20.86	8.51	.2858	-.57	7.54	.1633	.3134	.1569	-.0175

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
19.02	-1.04

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
19.13	5.32	.2141	-1.01	4.68
19.16	6.44	.2498	-.99	5.95
19.24	7.12	.2769	-.91	6.84
19.34	7.62	.2831	-.84	7.35
19.43	7.91	.2912	-.77	7.70
19.48	8.07	.2992	-.69	7.91

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.06	7.43	.2043	-.43	6.74	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	15.24	7.52	.7494	-.43	6.76	.7491	.2120	.3024	.1095
24	15.40	7.53	.6250	-.44	6.73	.6062	.2193	.3098	.0532
36	15.58	7.56	.5349	-.47	6.68	.4572	.2286	.2678	.0293
48	15.73	7.59	.4399	-.49	6.60	.3387	.2336	.2150	-.0045
60	15.89	7.58	.3698	-.53	6.56	.2128	.2283	.1699	-.0258
72	16.06	7.55	.3230	-.55	6.53	.1284	.2196	.1300	-.0282

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.27	-.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.35	4.90	.0308	-.85	4.36
14.38	5.76	.0957	-.84	5.22
14.38	6.23	.1363	-.78	5.89
14.44	6.62	.1718	-.72	6.27
14.47	6.85	.1810	-.67	6.53
14.48	6.99	.1861	-.63	6.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.01	6.51	.1792	-.41	5.13	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	10.18	6.57	.7135	-.40	5.19	.6978	.1927	.2440	.0658
24	10.33	6.61	.6378	-.42	5.18	.6144	.2000	.2515	.0251
36	10.46	6.61	.5311	-.43	5.17	.4725	.2012	.2616	-.0147
48	10.66	6.63	.4541	-.48	5.12	.3476	.2132	.2174	-.0413
60	10.79	6.60	.3603	-.53	5.10	.2469	.2168	.1959	-.0407
72	10.92	6.57	.3149	-.56	5.09	.1468	.2056	.1399	-.0456

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.54	-.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.86	4.54	.1073	-.81	3.63
8.89	4.97	.1330	-.81	3.99
9.01	5.46	.1289	-.82	4.44
9.06	5.73	.1523	-.75	4.75
9.19	6.02	.1514	-.72	4.92
9.24	6.14	.1606	-.65	5.04

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12668) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.44	5.67	.1853	-.17	4.09	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	6.52	5.72	.6720	-.19	4.11	.6030	.1882	.2008	.1140
24	6.65	5.73	.6320	-.21	4.10	.5921	.1915	.1672	.0566
36	6.75	5.73	.5246	-.23	4.08	.4096	.1908	.1691	.0545
48	6.88	5.73	.4576	-.28	4.02	.3425	.1864	.1361	.0371
60	7.00	5.73	.3701	-.32	4.00	.2259	.1962	.1093	.0178
72	7.14	5.71	.3188	-.35	4.01	.1777	.1887	.0755	.0035

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.16	-.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.20	4.20	.0982	-.34	3.24
6.14	4.39	.1790	-.32	3.29
6.14	4.82	.1483	-.29	3.71
6.12	5.04	.1670	-.26	3.83
6.13	5.26	.1740	-.23	3.97
6.12	5.37	.1837	-.22	4.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12958) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.19	5.32	.1609	-.12	3.42	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.26	5.32	.6567	-.11	3.42	.4578	.1623	.1256	.0931
24	4.39	5.37	.6348	-.12	3.43	.5070	.1784	.1229	.0799
36	4.50	5.35	.5257	-.12	3.42	.3174	.1665	.1231	.0526
48	4.59	5.36	.4700	-.18	3.36	.2967	.1872	.0763	.0298
60	4.68	5.40	.4145	-.18	3.27	.1493	.1865	.0686	.0216
72	4.79	5.43	.3597	-.21	3.27	.1519	.1983	.0719	-.0068

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.05	-.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.06	4.01	.1222	-.20	3.04
3.99	4.11	.1488	-.20	2.95
3.97	4.52	.1369	-.19	3.24
3.95	4.68	.1690	-.16	3.27
3.94	4.83	.1566	-.15	3.38
3.93	4.94	.1593	-.15	3.38

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.37	5.53	.2279	-.02	3.10	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.43	5.55	.7034	.00	3.15	.4314	.2472	.2137	.2004
24	3.50	5.58	.6934	.02	3.14	.5064	.2548	.1648	.1830
36	3.59	5.58	.5794	.03	3.13	.3127	.2583	.1447	.1836
48	3.70	5.58	.5525	.02	3.10	.2965	.2554	.1217	.1575
60	3.81	5.58	.4727	-.00	3.09	.1443	.2549	.1017	.1215
72	3.86	5.57	.4526	-.00	3.11	.1418	.2542	.0989	.0800

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.93	-.86

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	3.67	3.93	.1051	-.33	2.78
24	3.65	3.98	.1779	-.44	2.67
36	3.50	4.50	.1737	-.27	2.94
48	3.47	4.61	.1952	-.27	2.96
60	3.42	4.87	.2065	-.13	3.06
72	3.46	4.93	.2130	-.13	3.06

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.16	5.95	.2188	.07	3.27	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.28	6.01	.7662	.09	3.30	.4417	.2229	.1865	.1895
24	3.35	6.05	.7161	.10	3.29	.5201	.2280	.2033	.1792
36	3.45	6.04	.6306	.10	3.28	.3118	.2357	.1678	.1477
48	3.54	6.03	.5953	.10	3.28	.2297	.2326	.1155	.1090
60	3.64	6.05	.5185	.08	3.27	.1432	.2325	.0808	.0913
72	3.73	6.09	.4853	.09	3.27	.1131	.2342	.0641	.0539

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.19	.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.10	3.82	.1186	.07	2.92
3.05	4.15	.1100	.07	2.78
3.00	4.62	.1544	.06	3.09
2.95	4.78	.2005	.06	3.17
2.93	5.08	.2156	.07	3.23
2.90	5.19	.2239	.06	3.24

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.72	6.43	.2058	.34	3.21	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	3.80	6.44	.8012	.34	3.21	.4337	.2096	.1852	.1959
24	3.90	6.49	.7653	.36	3.19	.4897	.2045	.1685	.1545
36	3.99	6.53	.6885	.39	3.19	.2633	.2087	.1526	.1385
48	4.10	6.57	.6457	.39	3.18	.2193	.2026	.0856	.0782
60	4.19	6.64	.5894	.38	3.16	.0733	.1911	.0527	.0353
72	4.29	6.65	.5441	.38	3.13	.0188	.1803	.0540	.0003

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.80	.36

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.72	3.84	.0857	.35	2.88
3.65	4.14	.1391	.33	2.79
3.60	4.67	.1466	.32	3.08
3.54	4.90	.2177	.33	3.13
3.50	5.17	.2245	.33	3.20
3.46	5.36	.2132	.33	3.21

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.81	6.99	.1953	.45	3.31	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	4.88	7.00	.8154	.45	3.32	.4544	.1972	.1901	.1840
24	4.98	7.04	.7756	.45	3.32	.4390	.1834	.1634	.1703
36	5.11	7.08	.7142	.48	3.33	.2067	.1842	.1755	.1210
48	5.22	7.14	.6689	.49	3.32	.1973	.1848	.1665	.0901
60	5.33	7.20	.6113	.50	3.31	.0487	.1835	.1235	.0598
72	5.44	7.24	.5640	.51	3.28	.0194	.1830	.0932	.0276

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.84	.47

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.77	4.04	.0589	.46	2.93
4.70	4.41	.1039	.45	2.96
4.62	4.89	.1061	.43	3.20
4.56	5.19	.1237	.43	3.22
4.52	5.52	.1547	.43	3.28
4.48	5.74	.1746	.43	3.29

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/58 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.38	7.76	.2359	.37	3.77	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	6.46	7.79	.8459	.39	3.79	.4561	.2355	.2028	.2178
24	6.57	7.83	.8106	.40	3.79	.4314	.2158	.1907	.2009
36	6.67	7.85	.7526	.42	3.79	.2569	.2155	.1515	.1544
48	6.80	7.92	.6328	.41	3.78	.1676	.2123	.1396	.1487
60	6.91	7.94	.6502	.42	3.77	.0574	.2090	.1181	.1053
72	7.04	7.95	.6174	.43	3.74	.0561	.1995	.0953	.0644

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.31	.40

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	6.25	4.14	.1195	.36	3.33
24	6.18	4.54	.1348	.35	3.38
36	6.11	5.11	.1955	.34	3.62
48	6.05	5.60	.1967	.34	3.69
60	6.00	5.89	.2126	.33	3.74
72	5.94	6.09	.2298	.33	3.75

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.91	8.25	.2332	.31	3.94	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	8.02	8.32	.8567	.33	3.98	.5662	.2251	.2161	.2266
24	8.08	8.35	.8038	.36	3.98	.5051	.2066	.1973	.1957
36	8.20	8.35	.7489	.37	3.98	.3378	.1990	.1688	.1708
48	8.32	8.43	.6967	.36	3.97	.2714	.1914	.1434	.1232
60	8.42	8.47	.6402	.40	3.98	.1238	.1887	.1536	.0908
72	8.52	8.53	.5959	.43	3.96	.0801	.1840	.1356	.0738

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.84	.33

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.76	4.25	.0703	.30	3.23
7.72	4.90	.1181	.28	3.38
7.64	5.47	.1612	.28	3.69
7.58	5.92	.1978	.28	3.78
7.55	6.33	.1826	.27	3.88
7.52	6.62	.1947	.26	3.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9.42	8.88	.1622	.52	4.04	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	9.46	8.94	.8723	.55	4.06	.5858	.1496	.1579	.1487
24	9.51	8.99	.8192	.56	4.09	.5360	.1287	.1492	.1105
36	9.60	9.02	.7475	.57	4.09	.3784	.1216	.1259	.0880
48	9.68	9.06	.6942	.59	4.07	.3000	.1229	.1239	.0856
60	9.80	9.13	.6330	.64	4.07	.1724	.1277	.1204	.0329
72	9.89	9.20	.5880	.72	4.03	.1460	.1247	.1333	-.0011

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.57	.98

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.53	4.34	.0355	.77	3.26
9.47	5.11	.0774	.74	3.40
9.39	5.90	.1129	.67	3.73
9.33	6.47	.1195	.63	3.84
9.24	6.86	.1237	.57	3.96
9.19	7.15	.1183	.54	3.97

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11	1/56 - 12/70	0	90.0	.04	2.90	-.2098	-1.11	2.82	900
11	1/56 - 12/70	1	90.0	.18	6.87	.1475	-.66	5.34	900
11	1/56 - 12/70	2	90.0	2.84	7.32	.1798	-.18	5.34	900
11	1/56 - 12/70	3	90.0	5.47	7.69	.1970	-.17	5.66	900
11	1/56 - 12/70	4	90.0	7.82	8.00	.2164	-.25	6.31	900
11	1/56 - 12/70	5	90.0	10.40	8.73	.2569	-.27	7.00	900
11	1/56 - 12/70	6	90.0	13.12	9.62	.3025	-.23	7.95	900
11	1/56 - 12/70	7	90.0	15.89	10.26	.3124	-.27	9.12	900
11	1/56 - 12/70	8	90.0	18.90	11.18	.3210	-.44	10.47	900
11	1/56 - 12/70	9	90.0	21.89	12.13	.3635	-.27	11.81	900
11	1/56 - 12/70	10	90.0	24.84	13.28	.3938	-.31	13.35	900
11	1/56 - 12/70	11	90.0	27.83	13.80	.3865	-.45	14.85	900
11	1/56 - 12/70	12	90.0	29.90	14.03	.4052	-.68	15.47	900
11	1/56 - 12/70	13	90.0	30.24	13.15	.3793	-.46	14.16	900
11	1/56 - 12/70	14	90.0	28.33	11.84	.3742	-.65	11.90	900
11	1/56 - 12/70	15	90.0	24.47	9.90	.3551	-.42	9.68	900
11	1/56 - 12/70	16	90.0	20.01	8.48	.3104	-.42	8.07	900
11	1/56 - 12/70	17	90.0	15.06	7.43	.2043	-.43	6.74	900
11	1/56 - 12/70	18	90.0	10.01	6.51	.1792	-.41	5.13	900
11	1/56 - 12/70	19	90.0	6.44	5.67	.1853	-.17	4.09	900
11	1/56 - 12/70	20	90.0	4.19	5.32	.1609	-.12	3.42	900
11	1/56 - 12/70	21	90.0	3.37	5.53	.2279	-.02	3.10	900
11	1/56 - 12/70	22	90.0	3.16	5.95	.2188	.07	3.27	900
11	1/56 - 12/70	23	90.0	3.72	6.43	.2058	.34	3.21	900
11	1/56 - 12/70	24	90.0	4.81	6.99	.1953	.45	3.31	900
11	1/56 - 12/70	25	90.0	6.38	7.76	.2359	.37	3.77	900
11	1/56 - 12/70	26	90.0	7.91	8.25	.2332	.31	3.94	900
11	1/56 - 12/70	27	90.0	9.42	8.88	.1622	.52	4.04	900

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.60	2.67	-.2884	-.93	2.96	924

MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
.55	2.87	.5313	-.86	2.97	.5288	-.3028	.0570	-.3501
.54	2.85	.3530	-.82	2.99	.2523	-.2932	.1665	-.2563
.56	2.85	.1236	-.79	2.97	.0679	-.2932	.1634	-.1050
.59	2.85	.1374	-.78	2.98	.0067	-.2916	.0713	-.0354
.59	2.86	.0658	-.78	2.99	-.0131	-.2868	.0318	.0212
.59	2.87	.1415	-.77	3.01	.0128	-.2799	-.0484	-.0053

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.56	-1.06

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.64	2.20	-.3044	-1.04	2.42
.65	2.47	-.3446	-1.00	2.77
.62	2.65	-.3095	-.96	2.90
.60	2.65	-.3021	-.94	2.95
.59	2.67	-.2914	-.93	2.96
.59	2.65	-.2849	-.93	2.96

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.58	6.73	-.0011	.27	5.88	924

MEAN YP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
1.55	6.70	.7125	.39	5.89	.6148	.0033	.3161	-.3225
1.61	6.71	.3770	.54	5.90	.2585	.0043	.3417	-.3377
1.73	6.75	.1816	.62	5.89	.0346	.0057	.2162	-.2096
1.82	6.74	.0970	.64	5.87	-.0254	.0069	.0967	-.0905
1.84	6.74	.0619	.68	5.88	-.0288	.0042	.0398	-.0358
1.89	6.79	.0569	.70	5.93	-.0228	.0132	.0088	.0090

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.11	.21

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.33	4.18	-.0599	.04	4.25
1.52	5.80	-.0548	.04	5.31
1.57	6.46	-.0355	.14	5.73
1.56	6.67	-.0129	.22	5.85
1.55	6.71	-.0045	.23	5.87
1.53	6.72	-.0014	.28	5.87

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.03	7.15	.0328	.52	5.56	924

MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
5.00	7.10	.7210	.58	5.60	.6100	.0323	.2834	-.2936
5.03	7.10	.4332	.71	5.60	.2784	.0480	.3118	-.3345
5.15	7.13	.2462	.80	5.59	.0591	.0467	.2248	-.2360
5.23	7.13	.1592	.82	5.61	.0023	.0432	.1136	-.1140
5.30	7.14	.1349	.83	5.65	-.0053	.0456	.0564	-.0430
5.37	7.14	.1332	.88	5.72	.0113	.0568	.0205	-.0009

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.58	.71

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.67	4.38	.0401	.51	4.14
4.82	5.90	-.0137	.42	5.07
4.91	6.70	-.0115	.42	5.41
4.94	7.01	.0148	.46	5.52
4.94	7.08	.0251	.49	5.55
4.93	7.09	.0304	.51	5.55

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.37	7.51	.0932	.38	5.93	924

DT	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
2	8.35	7.47	.7486	.46	5.97	.5727	.0904	.2894	-.2021
4	8.38	7.46	.5226	.57	6.00	.2821	.0960	.2950	-.2223
6	8.47	7.49	.3537	.69	6.01	.1097	.0980	.2017	-.1630
8	8.57	7.50	.2655	.72	6.02	.0537	.0952	.1178	-.0786
10	8.65	7.48	.2295	.78	6.04	.0573	.0904	.0823	.0005
12	8.73	7.48	.2317	.84	6.10	.0540	.1002	.0551	.0100

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.89	.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.95	4.54	.0532	.41	4.65
8.08	6.06	.0119	.30	5.46
8.17	6.86	.0447	.29	5.78
8.20	7.20	.0699	.32	5.80
8.20	7.31	.0778	.33	5.90
8.18	7.30	.0836	.34	5.91

C.S.

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.71	8.06	.1565	.70	6.67	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	11.69	8.02	.7551	.79	6.71	.5898	.1579	.3164	-.0897
24	11.73	8.02	.5526	.87	6.72	.3119	.1594	.3135	-.1272
36	11.80	8.05	.4039	1.01	6.76	.1617	.1630	.2266	-.0919
48	11.88	8.07	.3314	1.04	6.79	.0780	.1601	.1646	-.0369
60	11.94	8.08	.2848	1.10	6.80	.0606	.1544	.1207	.0128
72	12.04	8.09	.2771	1.18	6.83	.0519	.1541	.0798	.0161

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.19	1.04

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.25	5.00	.0692	.74	5.17
11.34	6.48	.0561	.62	6.08
11.44	7.26	.0990	.60	6.44
11.47	7.57	.1154	.61	6.57
11.49	7.72	.1300	.62	6.61
11.47	7.74	.1416	.64	6.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14.54	8.83	.1726	1.16	7.71	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	14.52	8.77	.7555	1.25	7.75	.5791	.1668	.3332	-.0520
24	14.55	8.76	.5518	1.33	7.78	.3162	.1698	.2926	-.0937
36	14.63	8.81	.4071	1.49	7.81	.1669	.1761	.2277	-.0798
48	14.72	8.85	.3340	1.53	7.85	.0895	.1735	.1664	-.0220
60	14.79	8.87	.2721	1.62	7.85	.0818	.1687	.1256	.0326
72	14.88	8.88	.2503	1.70	7.87	.0966	.1661	.1011	.0513

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.07	1.65

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.11	5.56	.0343	1.28	6.01
14.19	7.17	.0841	1.15	7.07
14.27	7.95	.1148	1.08	7.44
14.31	8.29	.1321	1.08	7.59
14.35	8.49	.1462	1.09	7.64
14.34	8.55	.1527	1.10	7.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
17.52	9.42	.1966	1.21	8.47	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	17.50	9.39	.7832	1.31	8.49	.5688	.1923	.3228	.0148
24	17.55	9.40	.5933	1.42	8.53	.3193	.1970	.2731	-.0378
36	17.64	9.43	.4538	1.58	8.59	.1675	.2056	.1964	-.0225
48	17.75	9.45	.3764	1.65	8.65	.1026	.2055	.1412	.0256
60	17.84	9.48	.3265	1.74	8.67	.1075	.1995	.1371	.0491
72	17.92	9.49	.3016	1.87	8.72	.1015	.1994	.1256	.0674

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
17.13	1.80

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.15	5.71	.0317	1.39	6.72
17.19	7.44	.1061	1.23	7.82
17.25	8.32	.1431	1.16	8.23
17.27	8.71	.1615	1.15	8.36
17.29	8.90	.1642	1.14	8.36
17.28	8.98	.1677	1.13	8.38

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.50	10.52	.2218	1.49	9.32	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	20.45	10.45	.7847	1.61	9.34	.5928	.2185	.3033	.0548
24	20.49	10.45	.5941	1.71	9.42	.3519	.2262	.2498	.0065
36	20.57	10.49	.4545	1.87	9.52	.2016	.2308	.1731	.0147
48	20.63	10.52	.3713	1.96	9.58	.1416	.2331	.1277	.0345
60	20.71	10.52	.3187	2.06	9.62	.1281	.2307	.1239	.0422
72	20.78	10.53	.2884	2.21	9.67	.1030	.2266	.1354	.0562

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
20.22	2.13

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
20.24	6.40	.1010	1.74	7.32
20.27	8.35	.1550	1.57	8.57
20.31	9.32	.1843	1.49	9.05
20.34	9.75	.1977	1.47	9.18
20.34	9.97	.1985	1.45	9.20
20.34	10.07	.1939	1.43	9.21

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
23.56	11.75	.2809	1.85	10.26	924

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
23.35	2.56

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	23.47	11.65	.8035	1.96	10.25	.6228	.2736	.3402	.1212	23.39	6.89	.1433	2.17	7.82
24	23.46	11.59	.6178	2.10	10.32	.3695	.2816	.2640	.0727	23.43	9.16	.2109	1.98	9.38
36	23.51	11.62	.4819	2.23	10.39	.2179	.2849	.1723	.0453	23.44	10.23	.2545	1.89	9.95
48	23.54	11.67	.3939	2.34	10.49	.1579	.2922	.1268	.0455	23.46	10.77	.2664	1.86	10.10
60	23.59	11.68	.3379	2.41	10.51	.1318	.2882	.1161	.0480	23.47	11.04	.2660	1.84	10.14
72	23.67	11.66	.2969	2.54	10.52	.1123	.2853	.1252	.0553	23.46	11.22	.2609	1.82	10.15

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
26.78	13.34	.3083	2.12	11.53	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	26.70	13.23	.6102	2.23	11.51	.6517	.3008	.3143	.1753
24	26.68	13.14	.6353	2.36	11.59	.4028	.3021	.2462	.1213
36	26.69	13.13	.5068	2.48	11.67	.2314	.3042	.1691	.0972
48	26.67	13.16	.4114	2.58	11.77	.1583	.3087	.1206	.0806
60	26.67	13.14	.3469	2.65	11.76	.1278	.3045	.1163	.0713
72	26.71	13.11	.3066	2.77	11.78	.1095	.2995	.1376	.0781

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
26.69	2.93

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
26.71	7.76	.2195	2.55	8.62
26.74	10.25	.2548	2.33	10.44
26.75	11.47	.2811	2.21	11.15
26.77	12.14	.2956	2.17	11.35
26.78	12.50	.2930	2.15	11.39
26.77	12.69	.2840	2.13	11.39

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
29.88	14.63	.3070	2.30	13.01	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	29.79	14.49	.8184	2.42	12.99	.6842	.3018	.2930	.2223
24	29.73	14.38	.6494	2.57	13.05	.4395	.3042	.2217	.1742
36	29.75	14.34	.5145	2.69	13.14	.2747	.3075	.1489	.1335
48	29.68	14.32	.4176	2.75	13.27	.2086	.3092	.1268	.1142
60	29.68	14.34	.3473	2.82	13.27	.1598	.3070	.1428	.0999
72	29.68	14.32	.2940	2.93	13.27	.1479	.3004	.1433	.0925

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
28.84	3.09

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
29.07	8.40	.2006	2.66	9.41
29.27	11.12	.2541	2.43	11.62
29.38	12.54	.2878	2.34	12.47
29.51	13.29	.2897	2.31	12.69
29.58	13.72	.2804	2.25	12.77
29.63	13.98	.2812	2.23	12.79

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
32.49	15.08	.3057	2.35	14.06	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	32.39	14.88	.8266	2.54	14.04	.7112	.3031	.2758	.2572
24	32.34	14.79	.6568	2.70	14.07	.4658	.3063	.2094	.2052
36	32.32	14.78	.5348	2.79	14.20	.3093	.3101	.1392	.1640
48	32.26	14.78	.4399	2.85	14.34	.2462	.3078	.1080	.1391
60	32.26	14.77	.3591	2.93	14.34	.2034	.3044	.1149	.1312
72	32.27	14.76	.2857	3.07	14.32	.1748	.2971	.1334	.1030

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
32.38	3.07

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
32.49	8.49	.1855	2.72	9.85
32.52	11.37	.2501	2.51	12.41
32.52	12.75	.2888	2.43	13.36
32.55	13.55	.2958	2.40	13.62
32.54	14.07	.2855	2.38	13.75
32.52	14.45	.2818	2.36	13.80

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
35.01	15.16	.2937	2.69	14.62	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	34.97	15.00	.8312	2.88	14.65	.7624	.2937	.2660	.2555
24	34.91	14.87	.6524	3.07	14.69	.5256	.2990	.1929	.2013
36	34.94	14.88	.5193	3.18	14.73	.3565	.3012	.1362	.1608
48	34.90	14.86	.4218	3.22	14.79	.2715	.2990	.1008	.1332
60	34.91	14.88	.3378	3.34	14.82	.2191	.2996	.1017	.1101
72	34.94	14.93	.2545	3.48	14.76	.1880	.2981	.1185	.0744

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
34.84	3.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
34.91	8.43	.1785	3.12	9.44
34.97	11.49	.2557	2.89	12.43
34.96	12.96	.2775	2.79	13.65
34.99	13.75	.2858	2.75	14.07
34.99	14.28	.2806	2.71	14.26
34.99	14.66	.2784	2.68	14.33

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
35.94	14.09	.3166	3.00	13.54	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	35.87	14.00	.8285	3.12	13.57	.7933	.3130	.3081	.2558
24	35.86	13.90	.6657	3.24	13.63	.5858	.3128	.2343	.2050
36	35.88	13.85	.5223	3.38	13.68	.4278	.3131	.1615	.1687
48	35.88	13.83	.4188	3.41	13.72	.3281	.3117	.1094	.1328
60	35.90	13.84	.3381	3.51	13.75	.2487	.3127	.0975	.1090
72	35.93	13.84	.2793	3.66	13.67	.2077	.3148	.1137	.0945

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
35.61	3.72

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
35.71	7.89	.1887	3.45	8.20
35.76	10.51	.2691	3.26	10.95
35.80	12.01	.2986	3.13	12.24
35.82	12.79	.3148	3.10	12.79
35.84	13.26	.3103	3.04	13.12
35.85	13.53	.3023	2.99	13.23

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
34.50	12.85	.3365	2.70	11.17	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	34.43	12.70	.8300	2.77	11.22	.7890	.3331	.3547	.2618
24	34.42	12.60	.6564	2.89	11.30	.6015	.3301	.2895	.1880
36	34.41	12.53	.5074	3.00	11.34	.4615	.3289	.2058	.1386
48	34.43	12.46	.3944	3.09	11.41	.3670	.3301	.1584	.1191
60	34.37	12.43	.3097	3.16	11.41	.2995	.3316	.1267	.0959
72	34.40	12.41	.2396	3.31	11.36	.2375	.3353	.1362	.0871

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
34.20	3.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
34.29	7.17	.1573	3.14	6.77
34.33	9.69	.2723	2.96	8.86
34.38	11.07	.3207	2.85	9.89
34.40	11.81	.3255	2.79	10.38
34.44	12.22	.3300	2.76	10.65
34.45	12.48	.3213	2.70	10.83

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
31.00	11.28	.3111	2.32	9.41	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	30.95	11.22	.8117	2.34	9.51	.7922	.3120	.3417	.2214
24	30.93	11.08	.6549	2.44	9.57	.6155	.3081	.2877	.1663
36	30.92	11.03	.5194	2.55	9.65	.4791	.3120	.2133	.1208
48	30.96	11.01	.4004	2.64	9.72	.3825	.3185	.1538	.1044
60	30.99	11.03	.2899	2.73	9.70	.3173	.3220	.1233	.0877
72	31.04	11.04	.2132	2.87	9.67	.2583	.3243	.1382	.0763

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
30.72	3.06

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
30.76	6.57	.1651	2.84	5.67
30.83	8.51	.2430	2.65	7.35
30.86	9.62	.2934	2.53	8.24
30.88	10.33	.3051	2.46	8.69
30.91	10.79	.3054	2.41	8.92
30.93	11.02	.2971	2.35	9.07

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
26.50	9.52	.2693	2.01	8.39	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	26.53	9.49	.7881	2.04	8.49	.7754	.2730	.3269	.1837
24	26.51	9.48	.6432	2.13	8.56	.6090	.2689	.2667	.1363
36	26.54	9.48	.4950	2.22	8.63	.4899	.2706	.2200	.1023
48	26.56	9.47	.3746	2.28	8.64	.3884	.2724	.1834	.0803
60	26.57	9.49	.2760	2.34	8.64	.3347	.2775	.1490	.0775
72	26.59	9.54	.1876	2.45	8.63	.2835	.2786	.1462	.0640

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
26.24	2.71

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
26.25	5.85	.0919	2.47	5.20
26.30	7.28	.1980	2.31	6.59
26.33	8.26	.2326	2.21	7.27
26.37	8.82	.2451	2.14	7.70
26.41	9.15	.2521	2.10	7.89
26.44	9.35	.2542	2.05	8.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
21.64	8.35	.2719	1.53	7.49	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	21.65	8.32	.7682	1.53	7.57	.7820	.2756	.7198	.1593
24	21.67	8.31	.6104	1.61	7.65	.6277	.2738	.5826	.0894
36	21.67	8.30	.4543	1.69	7.71	.4999	.2744	.2426	.0414
48	21.69	8.27	.3312	1.73	7.75	.3975	.2752	.2119	.0349
60	21.65	8.30	.2258	1.77	7.76	.3066	.2802	.1879	.0288
72	21.63	8.32	.1714	1.84	7.74	.2393	.2791	.1671	.0476

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
21.38	2.12

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
21.39	5.32	.1674	1.94	4.60
21.40	6.58	.2400	1.79	5.77
21.45	7.40	.2635	1.69	6.43
21.50	7.86	.2590	1.64	6.83
21.56	8.13	.2595	1.60	7.08
21.60	8.22	.2558	1.56	7.23

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
16.24	7.33	.2434	1.01	6.13	924

DT H-R	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	16.23	7.33	.7063	1.00	6.13	.7628	.2388	.3302	.1369
24	16.23	7.31	.5834	1.05	6.17	.6313	.2359	.2931	.0793
36	16.23	7.30	.4899	1.11	6.23	.4985	.2399	.2654	.0502
48	16.19	7.30	.3875	1.15	6.26	.4027	.2391	.2291	.0338
60	16.17	7.31	.3154	1.18	6.25	.3127	.2439	.1850	.0314
72	16.16	7.33	.2465	1.24	6.22	.2536	.2469	.1601	.0268

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.16	1.57

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.17	5.19	.0747	1.41	3.85
16.16	5.94	.1737	1.31	4.66
16.17	6.37	.1946	1.21	5.23
16.20	6.75	.2118	1.16	5.55
16.22	6.95	.2215	1.12	5.78
16.23	7.10	.2272	1.08	5.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.16	6.84	.2763	.58	4.85	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	11.17	6.81	.6886	.61	4.82	.6533	.2689	.3251	.1691
24	11.14	6.83	.6321	.62	4.86	.5841	.2663	.3362	.1320
36	11.14	6.86	.5191	.66	4.88	.4465	.2714	.3144	.0598
48	11.13	6.86	.4628	.69	4.90	.4091	.2757	.2810	.0702
60	11.10	6.88	.3863	.74	4.90	.2866	.2777	.2699	.0591
72	11.10	6.89	.3397	.80	4.87	.2710	.2802	.2599	.0628

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.21	1.02

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.18	4.96	.1159	.84	3.60
11.18	5.29	.1359	.80	3.83
11.15	5.82	.1951	.73	4.23
11.17	6.05	.2107	.71	4.35
11.18	6.30	.2121	.66	4.55
11.19	6.43	.2199	.64	4.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.36	6.57	.2056	.32	3.95	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	8.37	6.56	.6863	.32	3.94	.4821	.2000	.2523	.1256
24	8.34	6.57	.6017	.33	3.97	.4740	.2078	.2772	.1168
36	8.32	6.58	.5173	.34	4.00	.3142	.2111	.2644	.0954
48	8.29	6.60	.4401	.37	4.00	.3248	.2148	.2659	.0761
60	8.26	6.59	.4063	.39	4.02	.2189	.2226	.2588	.0692
72	8.25	6.57	.3548	.41	4.02	.2083	.2214	.2336	.0645

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.33	.67

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.32	4.78	.0601	.47	3.40
8.34	5.25	.0616	.47	3.40
8.35	5.62	.0914	.41	3.66
8.36	5.90	.1130	.41	3.65
8.38	6.00	.1197	.38	3.76
8.38	6.14	.1395	.37	3.79

QUADRAVAPIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.37	6.52	.2894	.30	3.71	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.38	6.50	.6887	.26	3.68	.4362	.2845	.2500	.2056
24	7.38	6.53	.6245	.25	3.70	.4612	.2957	.2705	.1371
36	7.32	6.55	.5558	.25	3.71	.3336	.2932	.2305	.1093
48	7.24	6.56	.4935	.22	3.73	.2724	.2991	.2153	.1003
60	7.15	6.59	.4215	.21	3.74	.2222	.3046	.2266	.0656
72	7.13	6.59	.3393	.21	3.73	.1905	.3079	..871	.0583

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.19	.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.25	4.73	.1758	.46	3.30
7.21	5.08	.2056	.47	3.25
7.25	5.41	.2287	.42	3.46
7.30	5.66	.2347	.40	3.53
7.33	5.90	.2354	.39	3.56
7.35	6.12	.2548	.38	3.61

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.33	6.41	.2682	.10	3.33	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	7.28	6.40	.7317	.07	3.31	.4805	.2721	.2683	.2231
24	7.26	6.40	.6881	.05	3.32	.4857	.2740	.2505	.1878
36	7.20	6.45	.6207	.05	3.35	.3463	.2750	.2123	.1636
48	7.15	6.45	.5534	.02	3.37	.2932	.2805	.2250	.1260
60	7.08	6.47	.4865	.02	3.37	.2228	.2860	.1988	.1237
72	7.01	6.49	.4113	.00	3.37	.1851	.2873	.1504	.0639

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.00	.36

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.13	4.37	.1039	.21	2.88
7.15	4.65	.1530	.22	2.89
7.20	5.03	.1900	.18	3.10
7.22	5.34	.1921	.17	3.15
7.28	5.60	.2068	.16	3.22
7.28	5.83	.2415	.16	3.26

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.23	7.02	.1909	.18	3.50	924

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.85	.42

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	8.26	7.06	.7651	.17	3.53	.4020	.2059	.1580	.1364	7.91	4.52	.1331	.26	3.19
24	8.24	7.07	.7203	.14	3.56	.4592	.2187	.1793	.1121	7.92	4.86	.1335	.29	3.10
36	8.17	7.09	.6348	.10	3.57	.2827	.2208	.1592	.1096	8.01	5.42	.1327	.25	3.34
48	8.10	7.14	.5663	.09	3.60	.2978	.2371	.1212	.1028	8.07	5.78	.1672	.27	3.33
60	7.97	7.17	.5262	.07	3.60	.1341	.2442	.1040	.0720	8.13	5.96	.1703	.22	3.46
72	7.88	7.21	.4415	.06	3.61	.0967	.2499	.0797	.0082	8.15	6.26	.1853	.21	3.48

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9.97	7.88	.1924	.48	3.58	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	10.01	7.92	.7610	.49	3.58	.4513	.1982	.1511	.1045
24	9.99	7.99	.7146	.47	3.58	.4434	.2082	.1343	.0951
36	9.91	8.01	.6562	.45	3.58	.3205	.2139	.1279	.0812
48	9.80	8.08	.5774	.41	3.59	.2542	.2122	.0857	.0639
60	9.67	8.13	.5111	.39	3.60	.1401	.2129	.0575	.0651
72	9.57	8.19	.4664	.35	3.63	.1281	.2236	.0440	.0228

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.64	.67

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.67	5.10	.1696	.55	3.18
9.70	5.49	.1918	.56	3.20
9.76	5.93	.1781	.54	3.38
9.85	6.42	.2000	.54	3.46
9.93	6.76	.1988	.52	3.54
9.95	6.94	.2084	.52	3.55

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.89	8.68	.1841	.65	3.92	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	11.90	8.68	.7870	.64	3.90	.4859	.1844	.1545	.1399
24	11.84	8.74	.7381	.62	3.91	.4578	.1973	.1435	.0709
36	11.78	8.81	.6879	.60	3.91	.2672	.2022	.1018	.0850
48	11.64	8.91	.6221	.58	3.93	.2411	.1905	.0752	.0469
60	11.53	8.98	.5577	.56	3.92	.1314	.1897	.0530	.0544
72	11.39	9.09	.5082	.54	3.93	.0929	.1980	.0492	.0308

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.52	.77

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.59	5.35	.1209	.70	3.41
11.62	5.82	.1876	.71	3.47
11.69	6.44	.1804	.69	3.77
11.78	6.77	.2038	.69	3.80
11.86	7.19	.1961	.68	3.88
11.91	7.45	.1933	.67	3.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.42	9.54	.1154	.85	4.21	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	13.42	9.55	.8177	.83	4.20	.4674	.1270	.1088	.1039
24	13.41	9.60	.7667	.84	4.20	.5177	.1400	.0880	.1020
36	13.37	9.67	.6968	.84	4.19	.3038	.1446	.0809	.0708
48	13.25	9.75	.6610	.83	4.20	.2831	.1425	.0752	.0574
60	13.13	9.82	.5909	.78	4.17	.1574	.1444	.0782	.0188
72	13.00	9.88	.5445	.74	4.18	.1557	.1565	.0811	.0089

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
13.03	.89

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
13.10	5.49	.0520	.86	3.72
13.13	6.12	.0922	.87	3.60
13.19	6.83	.0996	.86	4.01
13.27	7.15	.1057	.86	4.04
13.35	7.67	.0998	.86	4.15
13.42	7.96	.1001	.87	4.15

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT)
YP = V(AT T + DT)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14.62	10.22	.1122	1.27	4.45	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	14.65	10.30	.8524	1.26	4.44	.5997	.1250	.0953	.0860
24	14.65	10.36	.7883	1.29	4.56	.5403	.1405	.0827	.0789
36	14.59	10.44	.7309	1.29	4.57	.3806	.1465	.0519	.0650
48	14.50	10.55	.6762	1.25	4.58	.2994	.1450	.0369	.0445
60	14.38	10.62	.6083	1.23	4.57	.2036	.1424	.0252	.0243
72	14.25	10.70	.5636	1.16	4.59	.1616	.1548	.0196	.0270

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.17	1.30

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.21	5.34	.1034	1.29	3.56
14.25	6.28	.1241	1.27	3.74
14.31	6.96	.1434	1.27	4.11
14.39	7.51	.1474	1.28	4.24
14.48	8.09	.1415	1.28	4.35
14.56	8.42	.1364	1.29	4.39

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
12	1/56 - 12/70	0	90.0	.60	2.67	-.2884	-.93	2.96	924
12	1/56 - 12/70	1	90.0	1.58	6.73	-.0011	.27	5.88	924
12	1/56 - 12/70	2	90.0	5.03	7.15	.0328	.52	5.56	924
12	1/56 - 12/70	3	90.0	8.37	7.51	.0932	.38	5.93	924
12	1/56 - 12/70	4	90.0	11.71	8.06	.1565	.70	6.67	924
12	1/56 - 12/70	5	90.0	14.54	8.83	.1726	1.16	7.71	924
12	1/56 - 12/70	6	90.0	17.52	9.42	.1966	1.21	8.47	924
12	1/56 - 12/70	7	90.0	20.50	10.52	.2218	1.49	9.32	924
12	1/56 - 12/70	8	90.0	23.56	11.75	.2809	1.85	10.26	924
12	1/56 - 12/70	9	90.0	26.78	13.34	.3083	2.12	11.53	924
12	1/56 - 12/70	10	90.0	29.88	14.63	.3070	2.30	13.01	924
12	1/56 - 12/70	11	90.0	32.49	15.08	.3057	2.35	14.06	924
12	1/56 - 12/70	12	90.0	35.01	15.16	.2937	2.69	14.62	924
12	1/56 - 12/70	13	90.0	35.94	14.09	.3166	3.00	13.54	924
12	1/56 - 12/70	14	90.0	34.50	12.85	.3365	2.70	11.17	924
12	1/56 - 12/70	15	90.0	31.00	11.28	.3111	2.32	9.41	924
12	1/56 - 12/70	16	90.0	26.50	9.52	.2693	2.01	8.39	924
12	1/56 - 12/70	17	90.0	21.64	8.35	.2719	1.53	7.49	924
12	1/56 - 12/70	18	90.0	16.24	7.33	.2434	1.01	6.13	924
12	1/56 - 12/70	19	90.0	11.16	6.84	.2763	.58	4.85	924
12	1/56 - 12/70	20	90.0	8.36	6.57	.2056	.32	3.95	924
12	1/56 - 12/70	21	90.0	7.37	6.52	.2894	.30	3.71	924
12	1/56 - 12/70	22	90.0	7.33	6.41	.2682	.10	3.33	924
12	1/56 - 12/70	23	90.0	8.23	7.02	.1909	.18	3.50	924
12	1/56 - 12/70	24	90.0	9.97	7.88	.1924	.48	3.58	924
12	1/56 - 12/70	25	90.0	11.89	8.68	.1841	.65	3.92	924
12	1/56 - 12/70	26	90.0	13.42	9.54	.1154	.85	4.21	924
12	1/56 - 12/70	27	90.0	14.62	10.22	.1122	1.27	4.45	924

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.66	2.90	-.2412	-.95	3.30	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	2.89	-.5022	-.02	3.34	-.5076	-.2385	.3446	-.0938
24	.03	3.36	-.5817	-.02	4.18	-.6337	-.2548	.3779	-.0430
36	.01	3.79	-.6513	.01	4.63	-.6981	-.2679	.3332	.0408
48	.01	3.79	-.6526	.03	4.79	-.7218	-.2635	.2565	.1159
60	.01	3.99	-.6850	.04	4.75	-.7196	-.2835	.2149	.1839
72	.00	3.92	-.6716	.06	4.67	-.7077	-.2597	.1801	.1683

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.74	-.90

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.43	2.43	-.2368	-.36	2.74
.40	2.29	-.2246	-.39	2.44
.36	2.16	-.2143	-.42	2.31
.32	2.19	-.2176	-.45	2.27
.30	2.11	-.2005	-.47	2.29
.30	2.15	-.2379	-.47	2.33

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.73	7.02	.0092	.74	6.31	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	5.64	-.4035	-.04	5.82	-.4655	-.0022	.4230	-.3618
24	-.02	8.04	-.5713	-.00	7.73	-.6222	-.0054	.3193	-.2886
36	-.04	9.31	-.6565	-.07	8.86	-.7084	-.0027	.1889	-.1812
48	-.05	9.70	-.6803	-.01	9.23	-.7330	-.0029	.0696	-.0706
60	-.00	9.70	-.6769	.02	9.10	-.7252	-.0051	.0098	-.0165
72	-.01	9.62	-.6722	.07	9.87	-.7050	.0111	-.0216	-.0141

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.03	.91

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.79	5.90	.0174	1.69	4.91
.94	5.38	.0193	1.00	4.52
1.06	5.14	.0074	.64	4.29
1.16	5.12	.0068	.41	4.27
1.23	5.16	.0026	.30	4.34
1.23	5.20	-.0190	.29	4.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.03	7.06	.0462	1.10	6.40	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	5.49	-.3887	-.06	5.52	-.4350	.0632	.3141	-.3343
24	-.01	7.58	-.5311	-.09	7.36	-.5804	.0217	.2736	-.2881
36	-.02	8.83	-.6144	-.09	8.43	-.6622	.0164	.1677	-.1351
48	-.00	9.23	-.6403	-.06	8.93	-.6985	.0266	.0622	-.1090
60	.03	9.20	-.6338	-.04	8.89	-.6971	.0432	-.0022	-.0805
72	.06	9.29	-.6358	.01	8.71	-.6838	.0653	-.0329	-.0862

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.37	1.23

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.03	6.12	.0371	3.36	5.33
3.08	5.65	.0478	2.22	4.88
3.22	5.41	.0468	1.40	4.66
3.35	5.38	.0392	.87	4.55
3.42	5.44	.0139	.61	4.58
3.48	5.44	-.0095	.55	4.67

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.75	7.37	.0949	1.30	7.21	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	5.40	-.3643	-.08	5.93	-.4138	.0854	.2515	-.2839
24	.02	7.34	-.4899	-.10	7.94	-.5566	.0449	.2210	-.2437
36	-.01	8.54	-.5612	-.13	9.00	-.6307	.0583	.1249	-.1899
48	-.00	8.87	-.5775	-.13	9.56	-.6676	.0918	.0132	-.1308
60	.02	9.02	-.5825	-.14	9.61	-.6698	.1013	-.0386	-.1040
72	.04	9.10	-.5829	-.12	9.55	-.6646	.0976	-.0501	-.0980

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.12	1.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.08	6.60	.0977	4.76	6.22
5.09	6.21	.1155	3.19	5.72
5.25	5.99	.1043	2.01	5.47
5.39	5.99	.0831	1.17	5.34
5.46	5.98	.0699	.76	5.35
5.51	5.98	.0631	.64	5.38

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14.36	8.10	.1485	1.72	7.91	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.00	5.72	-.3507	-.10	6.47	-.4135	.1086	.2249	-.2690
24	-.02	7.50	-.4576	-.12	8.62	-.5491	.1068	.1662	-.2363
36	-.01	8.77	-.5263	-.15	9.67	-.6195	.1108	.0833	-.1947
48	.01	9.29	-.5500	-.15	10.17	-.6529	.1184	.0203	-.1604
60	.05	9.68	-.5681	-.13	10.34	-.6643	.1112	-.0174	-.1306
72	.07	9.92	-.5765	-.14	10.35	-.6598	.1024	-.0428	-.1079

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.64	1.86

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.05	7.35	.1587	6.19	6.88
7.09	7.04	.1676	4.20	6.37
7.22	6.80	.1634	2.71	6.09
7.34	6.72	.1547	1.92	5.94
7.41	6.64	.1529	1.38	5.90
7.49	6.61	.1494	1.00	5.94

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.02	9.08	.2007	2.15	8.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	6.26	-.3435	-.10	7.09	-.4094	.1394	.1760	-.2453
24	-.03	8.11	-.4432	-.12	9.46	-.5489	.1353	.1248	-.2232
36	-.04	9.32	-.5041	-.18	10.60	-.6179	.1464	.0538	-.2007
48	-.02	10.07	-.5375	-.21	11.21	-.6544	.1718	-.0082	-.1971
60	.03	10.57	-.5599	-.21	11.36	-.6644	.1557	-.0307	-.1736
72	.06	11.00	-.5738	-.21	11.50	-.6665	.1487	-.0665	-.1487

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.31	2.26

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.03	8.33	.2148	6.93	7.69
9.00	8.00	.2265	4.89	7.08
9.07	7.76	.2222	3.40	6.74
9.22	7.60	.2009	2.56	6.53
9.27	7.48	.2041	1.99	6.49
9.39	7.41	.1973	1.38	6.50

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
21.68	9.80	.2295	2.80	9.58	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	6.58	-.3390	-.12	7.73	-.4055	.1405	.1418	-.2163
24	-.02	8.45	-.4329	-.15	10.29	-.5456	.1508	.0778	-.1994
36	-.03	9.90	-.5006	-.22	11.48	-.6130	.1723	.0219	-.2028
48	-.01	10.80	-.5340	-.27	12.18	-.6531	.1679	-.0158	-.1863
60	.05	11.22	-.5544	-.27	12.27	-.6628	.1509	-.0454	-.1514
72	.12	11.76	-.5731	-.27	12.32	-.6637	.1599	-.0777	-.1432

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
22.07	2.89

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.69	9.06	.2477	7.69	8.55
10.72	8.73	.2548	5.28	7.88
10.86	8.40	.2490	3.96	7.47
11.06	8.23	.2480	3.03	7.20
11.04	8.13	.2566	2.19	7.16
11.22	8.01	.2463	1.68	7.16

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE K[illegible]NEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
25.23	10.93	.2790	3.42	10.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.05	6.95	-.3191	-.13	8.56	-.4058	.1484	.1104	-.1862
24	.00	9.11	-.4160	-.21	11.61	-.5547	.1718	.0498	-.1905
36	.00	10.74	-.4881	-.30	12.73	-.6150	.1735	.0076	-.1881
48	.04	11.68	-.5178	-.35	13.41	-.6505	.1696	-.0271	-.1730
60	.12	12.33	-.5409	-.35	13.53	-.6626	.1513	-.0283	-.1684
72	.21	12.99	-.5652	-.35	13.77	-.6743	.1801	-.0636	-.1763

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.72	3.50

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.54	10.24	.3023	8.34	9.57
12.61	9.85	.3124	5.94	8.74
12.60	9.47	.3212	4.40	8.32
12.87	9.30	.3242	3.39	8.05
12.99	9.14	.3292	3.00	7.95
13.16	8.98	.3175	2.62	7.85

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
28.68	11.95	.3017	3.75	11.74	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.09	7.80	-.3288	-.15	9.35	-.4026	.1384	.0908	-.1663
24	.07	10.20	-.4272	-.23	12.71	-.5508	.1702	.0271	-.1758
36	.09	11.82	-.4878	-.32	14.21	-.6185	.1772	-.0091	-.1743
48	.13	12.82	-.5185	-.39	14.88	-.6530	.1907	-.0446	-.1779
60	.23	13.58	-.5382	-.37	15.00	-.6627	.1749	-.0470	-.1724
72	.30	14.38	-.5637	-.35	15.12	-.6677	.1844	-.0748	-.1685

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.26	3.84

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.12	11.19	.3315	8.19	10.60
14.29	10.73	.3430	5.78	9.69
14.45	10.38	.3567	4.57	9.14
14.75	10.17	.3521	3.73	8.84
15.02	10.03	.3574	3.31	8.75
15.19	9.84	.3530	2.73	8.72

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
32.14	13.29	.3108	4.17	12.79	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.09	8.19	-.3131	-.15	10.14	-.3976	.1264	.0461	-.1162
24	.10	10.80	-.4057	-.20	13.82	-.5485	.1654	.0004	-.1401
36	.10	12.55	-.4627	-.31	15.31	-.6106	.1703	-.0213	-.1480
48	.17	13.87	-.5016	-.40	15.89	-.6399	.1820	-.0461	-.1613
60	.29	14.64	-.5200	-.38	16.23	-.6574	.1790	-.0623	-.1578
72	.40	15.41	-.5403	-.39	16.44	-.6668	.1933	-.0899	-.1552

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
32.71	4.17

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
15.65	12.58	.3403	6.93	11.67
16.05	12.10	.3564	5.51	10.63
16.31	11.74	.3703	4.66	10.07
16.63	11.45	.3669	3.95	9.79
16.9[illegible]	11.31	.3676	3.40	9.61
17.18	11.16	.3648	2.86	9.52

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
35.84	14.70	.3552	4.66	13.62	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.08	8.86	-.3042	-.18	10.41	-.3828	.1385	.0046	-.0912
24	.05	11.97	-.4086	-.26	14.26	-.5304	.1790	-.0234	-.1346
36	.02	13.76	-.4628	-.43	15.99	-.5989	.2179	-.0645	-.1605
48	.07	14.93	-.4962	-.50	16.79	-.6361	.2383	-.0933	-.1803
60	.17	15.66	-.5160	-.49	17.23	-.6566	.2302	-.1105	-.1732
72	.31	16.42	-.5387	-.46	17.48	-.6667	.2372	-.1236	-.1763

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
36.41	4.65

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.59	13.98	.3846	5.47	12.56
17.80	13.38	.4059	5.16	11.50
18.09	13.00	.4091	4.50	10.87
18.36	12.72	.4031	3.98	10.48
18.49	12.56	.4069	3.30	10.26
18.61	12.36	.4086	3.06	10.14

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + ΔT) - U(AT T)
YP = V(AT T + ΔT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
39.39	15.56	.3474	4.86	14.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.08	9.05	-.2913	-.23	10.70	-.3646	.1464	-.0066	-.0801
24	.07	12.47	-.3983	-.34	14.75	-.5072	.1746	-.0258	-.1236
36	.09	14.19	-.4465	-.50	16.85	-.5845	.2094	-.0561	-.1569
48	.15	15.33	-.4774	-.59	17.91	-.6283	.2470	-.0956	-.1809
60	.24	16.27	-.5028	-.58	18.63	-.6573	.2411	-.1146	-.1762
72	.38	16.97	-.5237	-.56	19.03	-.6725	.2580	-.1368	-.1794

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
39.98	4.63

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
19.51	14.88	.3730	5.48	13.64
19.74	14.25	.3928	5.34	12.61
20.15	13.89	.3941	5.04	11.86
20.45	13.64	.3844	4.53	11.38
20.56	13.43	.3900	3.79	11.04
20.61	13.24	.3905	3.48	10.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
41.80	14.97	.3410	5.08	14.64	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.06	8.70	-.2884	-.19	9.94	-.3437	.1186	-.0032	-.0631
24	.09	11.62	-.3794	-.30	14.20	-.4938	.1438	-.0096	-.1065
36	.11	13.34	-.4280	-.45	16.54	-.5771	.1910	-.0505	-.1395
48	.22	14.47	-.4530	-.54	17.86	-.6236	.2232	-.0847	-.1593
60	.33	15.18	-.4711	-.58	18.88	-.6619	.2100	-.0940	-.1543
72	.45	15.87	-.4938	-.57	19.36	-.6793	.2180	-.1108	-.1550

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
42.39	4.71

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
20.83	14.33	.3674	5.28	13.74
21.26	13.83	.3884	5.82	12.70
21.77	13.50	.3885	5.26	11.93
22.36	13.32	.3829	4.79	11.42
22.52	13.18	.3940	4.24	10.96
22.49	13.00	.3987	3.85	10.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
42.03	13.53	.3206	4.86	12.79	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.11	8.29	-.3039	-.12	8.40	-.3350	.0680	.0278	-.0699
24	.15	11.05	-.4011	-.21	11.96	-.4815	.1424	.0022	-.1240
36	.16	12.74	-.4537	-.32	14.12	-.5693	.1929	-.0363	-.1553
48	.25	13.63	-.4701	-.36	15.29	-.6176	.2027	-.0525	-.1587
60	.40	14.14	-.4779	-.35	16.00	-.6487	.2178	-.0769	-.1589
72	.54	14.64	-.4859	-.33	16.38	-.6636	.2254	-.0808	-.1640

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
42.63	4.59

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
20.78	12.87	.3489	5.77	12.04
21.29	12.36	.3616	5.89	11.18
21.85	12.02	.3636	5.52	10.47
22.53	11.91	.3711	5.26	10.02
22.99	11.86	.3724	4.82	9.70
23.39	11.80	.3760	4.92	9.53

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
39.89	12.30	.3140	4.27	10.86	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	8.06	-.3310	-.09	6.74	-.3155	.1159	.0309	-.1051
24	.06	10.43	-.4274	-.14	9.42	-.4536	.1688	-.0036	-.1403
36	.11	11.93	-.4870	-.18	11.26	-.5446	.2120	-.0536	-.1569
48	.21	12.88	-.5106	-.23	12.47	-.6033	.2350	-.0892	-.1630
60	.39	13.50	-.5270	-.20	13.16	-.6356	.2644	-.1158	-.1796
72	.50	13.94	-.5337	-.17	13.49	-.6517	.2735	-.1232	-.1859

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.56	3.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
19.42	11.58	.3398	5.90	10.28
19.67	11.09	.3507	5.24	9.64
19.82	10.72	.3538	4.43	9.08
20.44	10.56	.3543	3.92	8.64
20.85	10.44	.3470	3.86	8.36
21.28	10.39	.3469	3.91	8.21

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
35.69	10.67	.2985	4.04	9.81	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.06	7.46	-.3541	-.04	6.65	-.3469	.0747	.0491	-.1071
24	.10	9.47	-.4465	-.10	8.68	-.4595	.1128	.0375	-.1408
36	.14	10.57	-.4949	-.16	10.18	-.5423	.1875	-.0282	-.1642
48	.20	11.54	-.5323	-.21	11.22	-.6006	.2295	-.0883	-.1758
60	.31	12.15	-.5536	-.22	11.98	-.6381	.2702	-.1281	-.1972
72	.42	12.40	-.5578	-.22	12.33	-.6594	.2686	-.1242	-.2024

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
35.28	3.79

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.17	9.94	.3300	5.64	9.17
17.47	9.50	.3468	5.37	8.67
17.84	9.24	.3378	4.48	8.21
18.15	9.01	.3243	3.50	7.83
18.46	8.87	.3077	3.29	7.54
18.75	8.84	.3109	3.49	7.39

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
	30.67	9.25	.2726	3.56	8.47	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	7.15	-.3909	-.04	5.90	-.3561	.0742	.0815	-.1564
24	.07	8.31	-.4566	-.11	7.56	-.4630	.0913	.0785	-.1680
36	.10	9.36	-.5096	-.15	8.83	-.5457	.1542	.0194	-.1839
48	.18	10.10	-.5408	-.18	9.76	-.6030	.1886	-.0222	-.1934
60	.29	10.81	-.5739	-.19	10.53	-.6481	.2096	-.0733	-.1840
72	.41	10.99	-.5791	-.23	10.78	-.6634	.2262	-.0911	-.1911

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y			
	31.11	3.44			

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.64	8.43	.3050	5.73	7.87
14.74	8.14	.3214	5.52	7.44
15.17	7.90	.3145	4.60	7.05
15.54	7.73	.3077	4.07	6.71
15.70	7.55	.3040	3.20	6.43
15.87	7.52	.2954	3.07	6.32

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
24.73	8.44	.2632	2.57	7.34	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	6.65	-.3949	-.05	5.31	-.3726	.0882	.0908	-.1790
24	.05	7.94	-.4751	-.10	6.59	-.4704	.0909	.0877	-.1928
36	.11	8.81	-.5227	-.12	7.74	-.5567	.1285	.0450	-.1945
48	.17	9.59	-.5623	-.13	8.59	-.6183	.1158	.0200	-.1704
60	.30	9.65	-.5648	-.13	9.14	-.6543	.1411	-.0146	-.1722
72	.42	10.20	-.5945	-.15	9.42	-.6732	.1517	-.0390	-.1702

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.25	2.56

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.89	7.66	.2921	4.66	6.75
11.85	7.32	.3076	4.21	6.40
12.16	7.11	.3087	3.60	6.03
12.31	6.92	.3253	2.91	5.73
12.51	6.92	.3136	2.63	5.52
12.57	6.75	.3146	2.29	5.41

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.31	7.79	.2965	1.82	5.82	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	6.60	-.4261	-.03	4.44	-.3864	.1799	.0250	-.1859
24	.04	7.35	-.4746	-.06	5.40	-.4763	.1818	.0581	-.2365
36	.13	8.35	-.5356	-.07	6.29	-.5645	.1968	.0327	-.2496
48	.19	8.94	-.5711	-.08	6.94	-.6229	.1874	.0044	-.2243
60	.30	9.49	-.6035	-.06	7.49	-.6697	.1988	-.0303	-.2266
72	.42	9.78	-.6136	-.07	7.75	-.6885	.2055	-.0644	-.2099

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.75	1.89

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.95	7.00	.3193	2.42	5.34
9.04	6.75	.3306	2.98	5.05
9.15	6.48	.3380	2.69	4.73
9.17	6.33	.3557	2.27	4.50
9.28	6.15	.3522	1.99	4.28
9.44	6.12	.3495	1.66	4.20

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
12.73	7.35	.2669	1.07	4.55	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	6.74	-.4582	-.01	3.76	-.4084	.2438	.0008	-.2291
24	.06	7.59	-.5201	-.01	4.35	-.4837	.2571	-.0057	-.2703
36	.11	8.07	-.5553	-.03	5.07	-.5672	.2195	.0086	-.2670
48	.16	8.64	-.5960	-.02	5.60	-.6283	.1880	-.0184	-.2244
60	.23	8.86	-.6073	-.03	5.90	-.6516	.1847	-.0298	-.2141
72	.30	9.18	-.6231	-.05	6.14	-.6855	.1776	-.0463	-.1974

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
13.02	1.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.35	6.47	.2709	1.35	4.13
6.36	6.19	.2650	1.38	3.94
6.32	6.01	.2783	1.40	3.69
6.26	5.84	.2988	1.10	3.51
6.33	5.79	.3065	1.03	3.38
6.41	5.71	.3153	.89	3.29

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.73	6.82	.2940	.55	3.84	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	5.98	-.4395	-.00	3.69	-.4806	.2329	-.0343	-.1751
24	.05	6.77	-.5047	.01	3.80	-.5034	.2441	-.0504	-.2085
36	.09	7.23	-.5399	.01	4.33	-.5776	.2246	-.0410	-.2210
48	.15	7.62	-.5726	.01	4.55	-.6058	.2143	-.0537	-.2145
60	.19	7.80	-.5853	-.01	4.93	-.6539	.2256	-.0881	-.2071
72	.25	8.00	-.5976	-.02	5.05	-.6668	.2086	-.0993	-.1848

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.70	.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.45	6.11	.3103	.66	3.36
4.42	5.86	.3030	.59	3.31
4.43	5.70	.3130	.63	3.12
4.41	5.56	.3196	.55	3.04
4.43	5.51	.3160	.46	2.90
4.46	5.45	.3261	.37	2.86

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.45	7.06	.2309	.23	3.61	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.00	6.39	-.4529	.03	3.99	-.5527	.1234	-.0413	-.0785
24	.01	6.71	-.4834	.01	4.07	-.5646	.1464	-.0552	-.1016
36	.06	7.19	-.5138	.02	4.47	-.6129	.1518	.0075	-.1627
48	.12	7.51	-.5383	.02	4.55	-.6175	.1568	-.0463	-.1311
60	.15	7.58	-.5393	.05	4.91	-.6713	.1732	-.0634	-.1429
72	.16	8.10	-.5702	.03	4.96	-.6745	.1970	-.0865	-.1588

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.25	.35

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.34	6.29	.2688	.17	3.01
3.31	6.19	.2580	.15	2.98
3.37	6.03	.2714	.38	2.83
3.37	5.94	.2676	.22	2.84
3.42	5.93	.2622	.24	2.67
3.46	5.79	.2479	.20	2.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.32	7.75	.2506	.29	3.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	6.35	-.4105	.02	4.05	-.5459	.1474	-.0319	-.0984
24	.01	7.12	-.4578	.01	3.93	-.5294	.1611	-.0722	-.0873
36	.03	7.36	-.4741	.02	4.69	-.6305	.1305	-.0900	-.0614
48	.05	7.44	-.4759	.02	4.50	-.6031	.2105	-.1013	-.1267
60	.09	8.02	-.5140	.02	4.95	-.6570	.2088	-.1167	-.1314
72	.11	8.45	-.5422	.01	4.82	-.6377	.2350	-.1235	-.1584

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.97	.51

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.84	7.06	.2841	.19	3.11
2.85	6.89	.2789	.08	3.15
2.86	6.82	.3047	.03	2.88
2.89	6.81	.2657	.11	2.96
2.90	6.65	.2703	.10	2.80
2.92	6.51	.2531	.10	2.86

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.93	8.30	.2469	.54	3.95	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	5.74	-.3500	.02	4.05	-.5150	.0951	-.0775	-.0220
24	-.08	6.35	-.3869	.05	4.09	-.5248	.1420	-.0923	-.0527
36	-.05	6.71	-.4078	.09	4.56	-.5854	.1805	-.0867	-.0990
48	-.06	7.07	-.4321	.09	4.66	-.6012	.1925	-.1280	-.0977
60	.01	7.74	-.4719	.10	5.21	-.6686	.2151	-.1715	-.1046
72	.07	8.16	-.4971	.11	5.14	-.6605	.2355	-.1826	-.1238

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.29	.85

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.74	7.78	.2810	.05	3.38
2.72	7.66	.2706	.09	3.36
2.73	7.58	.2657	.21	3.20
2.71	7.49	.2533	.12	3.15
2.76	7.32	.2501	.11	2.93
2.79	7.21	.2331	.11	2.96

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.18	9.13	.2076	.84	3.88	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.06	5.63	-.3093	.02	4.07	-.5257	.2071	-.0886	-.0779
24	-.11	6.36	-.3508	.03	4.09	-.5269	.1932	-.1201	-.0593
36	-.10	7.08	-.3914	.07	4.69	-.5922	.1982	-.1289	-.0795
48	-.11	7.56	-.4216	.10	4.67	-.5841	.2436	-.1605	-.1064
60	-.06	8.14	-.4544	.11	5.06	-.6354	.2793	-.1862	-.1348
72	-.03	8.51	-.4766	.13	4.99	-.6272	.2289	-.1685	-.1139

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.35	1.00

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.96	8.68	.2137	.21	3.30
2.94	8.55	.2135	.10	3.29
2.93	8.40	.2104	.15	3.12
2.90	8.28	.1873	.16	3.15
2.93	8.13	.1716	.19	2.99
2.93	8.02	.1817	.16	3.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.23	9.64	.1660	.81	4.17	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	5.68	-.2913	.00	4.07	-.4904	.1181	-.0441	-.0415
24	-.05	5.99	-.3093	.01	4.21	-.5078	.1532	-.0922	-.0362
36	-.08	7.05	-.3631	-.00	4.72	-.5684	.1303	-.0754	-.0436
48	-.08	7.44	-.3864	-.02	4.78	-.5776	.2182	-.1486	-.0562
60	-.06	8.17	-.4303	-.03	5.25	-.6316	.2227	-.1691	-.0622
72	-.05	8.67	-.4563	-.05	5.27	-.6344	.2708	-.2052	-.0863

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.43	1.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.52	9.22	.1795	.27	3.63
3.52	9.17	.1748	.17	3.59
3.50	8.98	.1836	.21	3.43
3.50	8.89	.1658	.14	3.40
3.51	8.69	.1635	.13	3.23
3.47	8.57	.1394	.11	3.22

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = -V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.60	11.16	.1782	1.04	4.60	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.07	6.13	-.2703	.00	4.47	-.4850	.1590	-.1158	-.0254
24	-.14	7.29	-.3177	-.04	4.59	-.4980	.2111	-.1677	-.0310
36	-.18	8.29	-.3687	-.03	5.35	-.5759	.1866	-.1812	-.0316
48	-.20	8.66	-.3916	-.02	5.19	-.5602	.2484	-.1994	-.0625
60	-.20	9.41	-.4254	-.02	5.82	-.6283	.2681	-.2418	-.0688
72	-.20	10.04	-.4566	-.03	5.73	-.6166	.2674	-.2556	-.0539

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.87	1.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.21	10.74	.1847	.13	4.02
4.24	10.57	.1737	.04	3.98
4.15	10.36	.1750	.04	3.74
4.07	10.26	.1568	.10	3.80
4.06	10.09	.1470	.07	3.56
4.06	9.90	.1416	.03	3.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JANUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.20	12.53	.1350	1.56	5.28	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.06	6.31	-.2500	-.00	4.77	-.4500	.1583	-.1087	-.0263
24	-.15	7.66	-.2969	-.07	5.17	-.5080	.1990	-.1757	-.0250
36	-.15	8.63	-.3446	-.07	5.80	-.5667	.2039	-.1973	-.0338
48	-.19	9.41	-.3772	-.05	5.93	-.5801	.2782	-.2377	-.0646
60	-.23	10.26	-.4084	-.08	6.44	-.6251	.3082	-.2840	-.0690
72	-.19	10.91	-.4375	-.10	6.65	-.6370	.2902	-.2897	-.0613

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.40	2.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.54	12.13	.1317	.29	4.71
4.64	11.96	.1217	.07	4.53
4.52	11.75	.1132	.09	4.33
4.47	11.59	.0904	.15	4.28
4.48	11.41	.0749	.11	4.09
4.50	11.24	.0701	.09	4.03

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1	1/56 - 12/70	0	90.0	.66	2.90	-.2412	-.95	3.30	930
1	1/56 - 12/70	1	90.0	2.73	7.02	.0092	.74	6.31	930
1	1/56 - 12/70	2	90.0	7.03	7.06	.0462	1.10	6.40	930
1	1/56 - 12/70	3	90.0	10.75	7.37	.0949	1.30	7.21	930
1	1/56 - 12/70	4	90.0	14.36	8.10	.1485	1.72	7.91	930
1	1/56 - 12/70	5	90.0	18.02	9.08	.2007	2.15	8.72	930
1	1/56 - 12/70	6	90.0	21.68	9.80	.2295	2.80	9.58	930
1	1/56 - 12/70	7	90.0	25.23	10.93	.2790	3.42	10.67	930
1	1/56 - 12/70	8	90.0	28.68	11.95	.3017	3.75	11.74	930
1	1/56 - 12/70	9	90.0	32.14	13.29	.3108	4.17	12.79	930
1	1/56 - 12/70	10	90.0	35.84	14.70	.3552	4.66	13.62	930
1	1/56 - 12/70	11	90.0	39.39	15.56	.3474	4.86	14.67	930
1	1/56 - 12/70	12	90.0	41.80	14.97	.3410	5.08	14.64	930
1	1/56 - 12/70	13	90.0	42.03	13.53	.3206	4.86	12.79	930
1	1/56 - 12/70	14	90.0	39.89	12.30	.3140	4.27	10.86	930
1	1/56 - 12/70	15	90.0	35.69	10.67	.2985	4.04	9.81	930
1	1/56 - 12/70	16	90.0	30.67	9.25	.2726	3.56	8.47	930
1	1/56 - 12/70	17	90.0	24.73	8.44	.2632	2.57	7.34	930
1	1/56 - 12/70	18	90.0	18.31	7.79	.2965	1.82	5.82	930
1	1/56 - 12/70	19	90.0	12.73	7.35	.2669	1.07	4.55	930
1	1/56 - 12/70	20	90.0	8.73	6.82	.2940	.55	3.84	930
1	1/56 - 12/70	21	90.0	6.45	7.06	.2309	.23	3.61	930
1	1/56 - 12/70	22	90.0	5.32	7.75	.2506	.29	3.72	930
1	1/56 - 12/70	23	90.0	4.93	8.30	.2469	.54	3.95	930
1	1/56 - 12/70	24	90.0	5.18	9.13	.2076	.64	3.88	930
1	1/56 - 12/70	25	90.0	6.23	9.64	.1660	.81	4.17	930
1	1/56 - 12/70	26	90.0	7.60	11.16	.1782	1.04	4.60	930
1	1/56 - 12/70	27	90.0	8.20	12.53	.1350	1.56	5.28	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.55	3.26	-.2792	-.30	3.60	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.00	3.44	-.5235	.00	3.63	-.5050	-.2378	.3533	-.1215
24	.00	3.89	-.5887	-.02	4.60	-.6427	-.2290	.3349	-.0476
36	.00	4.35	-.6642	-.04	5.11	-.7149	-.2458	-.2788	.0640
48	-.03	4.33	-.6593	-.04	5.16	-.7217	-.2357	.2045	.1215
60	-.04	4.47	-.6818	-.02	5.26	-.7292	-.2534	.2201	.1392
72	-.03	4.48	-.6797	-.01	5.16	-.7154	-.2508	.2027	.1544

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.45	-.09

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.32	2.65	-.3025	-.14	2.98
.32	2.56	-.3276	-.19	2.67
.32	2.41	-.3171	-.23	2.49
.31	2.45	-.3246	-.26	2.49
.30	2.38	-.3070	-.25	2.46
.31	2.39	-.2985	-.25	2.51

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.81	7.22	-.0335	1.72	6.61	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	5.96	-.4039	.03	6.25	-.4730	-.0308	.4370	-.3562
24	.08	8.38	-.5756	.01	8.33	-.6278	.0084	.2883	-.2631
36	.05	9.59	-.6676	.01	9.22	-.6945	.0369	.1355	-.1784
48	.05	9.81	-.6833	.03	9.29	-.6996	.0724	.0272	-.1232
60	.07	10.02	-.7003	.04	9.32	-.7014	.0568	.0126	-.0862
72	.09	10.24	-.7182	.05	9.45	-.7152	.0340	.0121	-.0524

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.65	2.35

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.00	6.04	-.0411	2.29	5.11
1.48	5.55	-.0774	1.37	4.77
1.74	5.26	-.0994	.94	4.64
1.88	5.24	-.1298	.74	4.70
1.93	5.14	-.1134	.69	4.70
1.95	5.02	-.0925	.65	4.62

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.15	7.73	-.0181	1.51	6.70	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.07	5.99	-.3751	.08	6.02	-.4485	-.0089	.3654	-.3051
24	.14	8.05	-.5194	.05	7.91	-.5885	.0267	.2606	-.2599
36	.13	9.19	-.5966	.03	8.89	-.6590	.0602	.1433	-.1964
48	.12	9.69	-.6287	.05	9.17	-.6793	.0731	.0656	-.1497
60	.16	10.02	-.6552	.06	9.33	-.6923	.0739	.0442	-.1287
72	.15	10.35	-.6812	.04	9.56	-.7160	.0621	.0232	-.0966

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X			GIVEN Y	
8.02			2.08	

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.47	6.76	-.0257	3.73	5.48
3.80	6.35	-.0490	2.30	5.09
3.96	6.08	-.0700	1.53	4.89
4.05	5.96	-.0864	1.12	4.86
4.07	5.81	-.0844	1.00	4.80
4.07	5.65	-.0816	.82	4.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
12.05	8.26	.0079	1.75	7.36	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.07	6.00	-.3558	.09	6.34	-.4308	.1391	.2659	-.3197
24	.14	7.95	-.4779	.07	8.41	-.5692	.1515	.1922	-.2908
36	.20	8.92	-.5500	.04	9.31	-.6273	.1327	.1094	-.2351
48	.23	9.37	-.5808	.04	9.66	-.6519	.1226	.0610	-.1885
60	.25	9.69	-.6046	.04	9.88	-.6719	.1081	.0506	-.1609
72	.25	10.13	-.6332	.02	10.21	-.6991	.1006	.0259	-.1331

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.81	2.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.09	7.38	-.0351	5.26	6.18
6.10	7.00	-.0580	3.45	5.71
6.03	6.76	-.0613	2.41	5.55
6.03	6.65	-.0588	1.85	5.48
6.01	6.53	-.0468	1.64	5.37
6.02	6.37	-.0456	1.35	5.21

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
LTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.46	9.18	-.0035	2.26	8.05	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.10	8.19	-.3345	.10	6.97	-.4314	.1209	.2561	-.2775
24	.18	8.26	-.4460	.13	8.96	-.5488	.1310	.1796	-.2711
36	.22	9.35	-.5137	.12	9.97	-.6058	.0979	.1245	-.2077
48	.27	9.79	-.5490	.09	10.43	-.6335	.0871	.0959	-.1746
60	.29	10.24	-.5802	.05	10.85	-.6609	.0748	.0907	-.1539
72	.29	10.93	-.6216	.03	11.00	-.6784	.0745	.0496	-.1203

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.92	2.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.85	8.37	-.0376	6.75	6.82
8.00	7.98	-.0682	4.46	6.41
7.82	7.74	-.0579	3.20	6.23
7.75	7.58	-.0524	2.67	6.11
7.69	7.41	-.0422	2.43	5.93
7.71	7.16	-.0413	1.38	5.86

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
19.12	10.18	.0155	2.64	8.97	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.14	6.26	-.3046	.09	7.71	-.4285	.0873	.2585	-.2351
24	.28	8.61	-.4163	.13	9.95	-.5447	.1128	.1815	-.2364
36	.34	9.91	-.4874	.16	10.96	-.5955	.0816	.1361	-.1875
48	.41	10.59	-.5302	.18	11.42	-.6218	.0745	.1098	-.1605
60	.43	11.21	-.5680	.11	11.82	-.6438	.0823	.0871	-.1502
72	.43	11.83	-.6061	.11	11.86	-.6540	.0820	.0645	-.1290

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.45	3.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.68	9.46	-.0006	8.69	7.65
9.99	9.05	-.0244	5.59	7.19
9.83	8.76	-.0125	4.05	7.01
9.73	8.54	-.0045	3.41	6.88
9.67	8.31	-.0046	3.02	6.74
9.59	8.06	.0033	2.59	6.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
23.14	11.15	.0938	3.18	9.51	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.18	8.83	-.2951	.12	8.04	-.4223	.1126	.1997	-.2114
24	.32	9.38	-.4085	.14	10.45	-.5411	.1382	.1313	-.2174
36	.39	10.69	-.4764	.18	11.52	-.5851	.1246	.0876	-.1897
48	.47	11.43	-.5222	.18	12.05	-.6113	.1262	.0568	-.1754
60	.52	12.18	-.5592	.14	12.44	-.6322	.1362	.0315	-.1717
72	.54	12.76	-.5921	.09	12.54	-.6409	.1487	.0104	-.1702

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
22.34	4.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.21	10.46	.0885	8.81	8.29
12.35	10.01	.0760	5.83	7.75
12.12	9.69	.0819	4.42	7.56
11.91	9.43	.0828	3.72	7.42
11.90	9.18	.0784	3.27	7.28
11.80	8.94	.0754	2.95	7.23

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
26.89	12.53	.1524	3.58	10.33	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.19	7.45	-.2892	.13	8.77	-.4265	.1345	.1437	-.1811
24	.38	10.17	-.3989	.21	11.46	-.5517	.1702	.0735	-.1961
36	.49	11.69	-.4664	.26	12.73	-.6003	.1790	.0249	-.1916
48	.57	12.57	-.5159	.27	13.36	-.6270	.1677	.0008	-.1736
60	.61	13.30	-.5543	.25	13.82	-.6489	.1663	-.0075	-.1705
72	.64	14.05	-.5874	.22	13.84	-.6507	.1819	-.0291	-.1767

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.96	4.49

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.30	11.86	.1552	8.56	9.11
14.41	11.38	.1447	5.82	8.44
14.23	11.00	.1395	4.51	8.15
13.87	10.68	.1471	3.75	7.97
13.66	10.38	.1538	3.50	7.79
13.64	10.10	.1461	3.17	7.79

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
30.63	14.01	.1902	3.79	11.35	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.17	7.95	-.2793	.11	9.20	-.4059	.1513	.1184	-.1741
24	.38	10.86	-.3834	.14	12.33	-.5390	.1398	.0747	-.1704
36	.48	12.66	-.4588	.17	14.00	-.6021	.1471	.0187	-.1630
48	.56	13.81	-.5135	.20	14.83	-.6345	.1579	-.0144	-.1611
60	.58	14.65	-.5559	.17	15.24	-.6514	.1702	-.0298	-.1696
72	.62	15.44	-.5890	.13	15.40	-.6595	.1722	-.0406	-.1681

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.58	4.67

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.27	13.32	.1949	9.08	10.17
16.19	12.83	.2018	6.11	9.41
15.87	12.37	.2000	4.40	8.98
15.54	11.97	.1995	3.67	8.72
15.26	11.60	.1981	3.43	8.56
15.18	11.28	.2015	3.14	8.49

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
34.59	15.74	.2343	4.11	12.35	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.16	8.65	-.2735	.11	9.76	-.3941	.1672	.0609	-.1442
24	.36	11.56	-.3698	.11	13.30	-.5312	.1652	.0180	-.1513
36	.48	13.43	-.4403	.17	15.09	-.5921	.1650	-.0207	-.1470
48	.59	14.85	-.4952	.20	16.04	-.6278	.1762	-.0446	-.1542
60	.66	15.86	-.5393	.17	16.41	-.6423	.1910	-.0655	-.1621
72	.71	16.71	-.5716	.11	16.65	-.6521	.1896	-.0715	-.1662

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
33.44	4.88

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
18.28	15.06	.2412	7.80	11.24
18.10	14.55	.2463	5.53	10.38
17.69	14.08	.2511	4.18	9.91
17.45	13.63	.2521	3.67	9.58
17.18	13.23	.2495	3.31	9.44
17.04	12.88	.2506	3.08	9.34

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
38.27	16.92	.2549	4.15	13.76	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.16	8.93	-.2686	.12	10.56	-.3807	.1337	.0131	-.0890
24	.39	12.26	-.3703	.12	14.57	-.5221	.1544	-.0236	-.1110
36	.58	14.38	-.4409	.25	16.47	-.5875	.1881	-.0711	-.1322
48	.74	15.68	-.4893	.30	17.53	-.6230	.1980	-.0940	-.1374
60	.86	16.62	-.5248	.32	17.93	-.6364	.2051	-.1072	-.1422
72	.98	17.47	-.5504	.27	18.07	-.6421	.1958	-.1073	-.1414

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
36.89	4.76

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
19.68	16.27	.2679	5.49	12.69
19.75	15.69	.2757	4.22	11.71
19.60	15.16	.2680	3.33	11.12
19.32	14.74	.2692	2.91	10.76
19.14	14.39	.2690	2.69	10.61
19.22	14.11	.2723	2.48	10.55

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
42.03	17.71	.2767	4.15	14.98	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.16	9.27	-.2675	.12	11.02	-.3692	.1048	-.0150	-.0588
24	.32	12.62	-.3702	.11	15.33	-.5076	.1337	-.0467	-.0825
36	.46	14.68	-.4390	.27	17.76	-.5842	.1735	-.0837	-.1083
48	.61	15.90	-.4831	.32	18.85	-.6142	.1962	-.0969	-.1310
60	.75	3.96	-.5178	.30	19.18	-.6237	.2126	-.1126	-.1435
72	.87	17.93	-.5452	.22	19.28	-.6271	.2034	-.1203	-.1405

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.48	4.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
21.45	17.05	.2920	3.39	13.91
21.24	16.44	.3034	2.88	12.90
20.96	15.90	.3035	2.69	12.15
20.74	15.49	.3007	2.91	11.81
20.72	15.14	.2956	2.72	11.70
20.81	14.83	.2951	2.21	11.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
44.66	17.25	.2765	4.30	14.65	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.11	9.55	-.2847	.12	10.08	-.3471	.0803	-.0306	-.0357
24	.22	12.54	-.3808	.16	14.28	-.4901	.1435	-.0663	-.0724
36	.34	14.36	-.4445	.23	16.70	-.5701	.1833	-.0852	-.1110
48	.40	15.44	-.4896	.27	17.94	-.6104	.1944	-.0974	-.1226
60	.47	16.23	-.5194	.23	18.33	-.6240	.2152	-.1103	-.1406
72	.53	17.12	-.5461	.18	18.39	-.6278	.2273	-.1248	-.1518

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
43.16	4.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
22.50	16.54	.2930	1.75	13.74
22.22	15.95	.3010	2.16	12.77
21.95	15.44	.3016	2.87	12.03
21.40	15.03	.3072	2.91	11.60
21.25	14.73	.3015	2.96	11.44
21.36	14.44	.2929	2.65	11.40

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
44.51	15.90	.3462	4.25	12.82	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.05	9.67	-.3100	.09	8.95	-.3498	.1660	-.0600	-.0592
24	.11	11.93	-.3867	.15	12.32	-.4787	.2072	-.0952	-.0971
36	.26	13.59	-.4479	.18	14.47	-.5611	.2462	-.1205	-.1382
48	.31	14.39	-.4918	.21	15.53	-.6008	.2933	-.1633	-.1758
60	.29	15.13	-.5224	.14	15.86	-.6137	.2947	-.1628	-.1923
72	.26	15.93	-.5544	.08	15.96	-.6191	.2866	-.1623	-.1996

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
43.27	4.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
22.50	15.12	.3647	1.83	12.01
22.37	14.66	.3721	2.18	11.26
22.20	14.21	.3689	2.42	10.61
21.49	13.83	.3548	2.56	10.25
21.28	13.54	.3531	2.69	10.12
21.05	13.22	.3537	2.51	10.07

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
41.43	13.82	.3179	3.82	11.13	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.08	9.07	-.3254	.09	7.75	-.3475	.1903	-.0328	-.1049
24	.14	10.98	-.3950	.14	10.57	-.4720	.2246	-.0545	-.1476
36	.25	12.65	-.4562	.14	12.52	-.5553	.2549	-.0985	-.1741
48	.24	13.40	-.4997	.17	13.53	-.5989	.2900	-.1411	-.1974
60	.18	13.99	-.5288	.08	14.02	-.6215	.2700	-.1336	-.2006
72	.22	14.64	-.5562	.03	14.19	-.6280	.2569	-.1263	-.2046

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.23	4.23

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
21.71	13.05	.3299	3.42	10.43
21.87	12.67	.3320	3.94	9.79
21.92	12.27	.3258	3.38	9.24
21.28	11.94	.3115	2.97	8.90
20.93	11.70	.3180	2.92	8.71
20.80	11.45	.3234	2.86	8.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
36.59	11.99	.2316	3.12	9.31	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	8.17	-.3345	.09	6.58	-.3541	.1211	.0366	-.1230
24	.14	9.70	-.3997	.15	8.91	-.4715	.1721	.0098	-.1542
36	.26	10.86	-.4501	.19	10.40	-.5482	.2205	-.0560	-.1628
48	.27	11.51	-.4881	.25	11.06	-.5798	.2579	-.1005	-.1802
60	.27	12.14	-.5218	.22	11.47	-.6031	.2463	-.0880	-.1965
72	.27	12.68	-.5472	.21	11.80	-.6193	.2524	-.0898	-.2139

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
35.54	3.51

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
19.15	11.26	.2445	4.62	8.68
19.35	10.94	.2423	4.59	8.17
19.37	10.68	.2298	3.51	7.76
19.00	10.45	.2122	2.99	7.57
18.78	10.20	.2124	3.21	7.41
18.74	9.99	.2059	3.30	7.28

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
31.60	10.60	.1868	2.82	8.17	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.00	7.32	-.3391	.05	5.87	-.3619	.0940	.0680	-.1448
24	.06	9.10	-.4219	.07	7.79	-.4716	.1171	.0603	-.1719
36	.13	10.26	-.4788	.09	9.05	-.5425	.1408	.0047	-.1628
48	.14	10.88	-.5187	.11	9.82	-.5876	.1678	-.0544	-.1525
60	.15	11.14	-.5388	.11	10.28	-.6159	.1788	-.0734	-.1553
72	.11	11.63	-.5617	.16	10.50	-.6275	.1765	-.0669	-.1637

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
30.66	3.13

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.37	9.90	.1940	4.75	7.57
16.55	9.52	.1946	4.48	7.14
16.58	9.25	.1866	3.31	6.83
16.28	9.04	.1736	2.37	6.60
16.08	8.91	.1671	2.17	6.43
16.08	8.75	.1687	2.32	6.35

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
25.58	9.47	.1912	2.08	6.94	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	7.21	-.3795	.05	5.34	-.3805	.1507	.0274	-.1518
24	.03	8.58	-.4470	.07	6.72	-.4728	.1655	.0126	-.1721
36	.07	9.34	-.4903	.07	7.70	-.5367	.1560	-.0177	-.1557
48	.07	10.22	-.5436	.09	8.31	-.5779	.1795	-.0681	-.1532
60	-.00	10.40	-.5602	.09	8.63	-.6012	.1732	-.0825	-.1402
72	-.01	10.80	-.5819	.12	8.89	-.6152	.1694	-.0700	-.1496

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
24.78	2.20

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
13.33	8.72	.1940	3.04	6.39
13.51	8.42	.1912	2.88	6.08
13.40	8.22	.1907	2.27	5.84
13.22	7.93	.1783	1.67	5.66
13.00	7.84	.1800	1.42	5.54
13.00	7.69	.1859	1.63	5.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
19.13	8.67	.3013	1.41	5.66	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.00	7.69	-.4407	.05	4.51	-.4015	.2196	.0029	-.2002
24	.00	8.58	-.4858	.09	5.52	-.4825	.2184	-.0156	-.2119
36	-.01	9.37	-.5311	.10	6.32	-.5454	.2232	-.0665	-.2046
48	.03	9.97	-.5672	.11	6.85	-.5885	.2086	-.0830	-.2000
60	-.00	10.34	-.5974	.12	7.05	-.6031	.2126	-.1065	-.1901
72	-.04	10.74	-.6286	.14	7.15	-.6116	.2065	-.1181	-.1762

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.46	1.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.17	7.73	.3187	1.98	5.15
10.29	7.52	.3183	1.87	4.93
10.24	7.31	.3092	1.40	4.73
10.18	7.10	.3105	1.20	4.57
10.00	6.93	.3128	1.01	4.51
9.81	6.73	.3233	.87	4.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.20	7.97	.2650	1.01	4.55	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	6.97	-.4324	.06	4.07	-.4512	.1675	-.0051	-.1464
24	-.05	7.87	-.4864	.07	4.58	-.5031	.1822	-.0242	-.1597
36	-.09	8.35	-.5155	.09	5.20	-.5703	.1957	-.0554	-.1641
48	-.11	8.96	-.5528	.08	5.61	-.6151	.2212	-.0949	-.1765
60	-.13	9.62	-.5994	.10	5.81	-.6351	.2300	-.1003	-.2018
72	-.18	9.60	-.6046	.12	5.95	-.6479	.2345	-.1290	-.1781

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.40	1.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.07	7.16	.2859	1.06	4.05
7.10	6.94	.2887	.98	3.92
7.10	6.01	.2852	.89	3.73
7.11	6.63	.2730	.77	3.58
7.05	6.36	.2660	.79	3.51
6.93	6.34	.2695	.66	3.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.19	7.58	.2690	.70	3.95	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	6.94	-.4517	.03	4.09	-.5201	.1833	-.0773	-.1015
24	-.03	7.61	-.4955	.02	4.35	-.5549	.2210	-.0646	-.1670
36	-.06	7.95	-.5162	.01	4.86	-.6117	.1983	-.0534	-.1655
48	-.09	7.85	-.5110	-.01	5.05	-.6383	.2329	-.0967	-.1644
60	-.11	8.72	-.5657	-.02	5.25	-.6642	.2102	-.1101	-.1498
72	-.13	8.79	-.5680	-.01	5.32	-.6749	.2123	-.1037	-.1604

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.13	.76

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.66	6.76	.2945	.40	3.38
4.67	6.57	.2842	.54	3.28
4.66	6.48	.3001	.56	3.12
4.65	6.51	.2884	.50	3.04
4.64	6.25	.3023	.40	2.95
4.64	6.23	.3020	.44	2.91

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.46	7.47	.2325	.20	4.41	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	6.40	-.4298	.01	4.50	-.5083	.1395	-.0464	-.0825
24	-.06	7.05	-.4717	.01	4.81	-.5459	.1502	-.0604	-.0926
36	-.12	7.69	-.5120	-.03	5.62	-.6435	.1372	-.0502	-.1076
48	-.20	7.91	-.5220	-.01	5.56	-.6452	.1488	-.0399	-.1318
60	-.19	8.24	-.5456	-.00	5.81	-.6747	.1565	-.0332	-.1565
72	-.28	8.33	-.5448	-.00	5.71	-.6621	.1693	-.0245	-.1758

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.02	.01

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.44	6.74	.2587	.28	3.79
3.44	6.58	.2601	.26	3.69
3.42	6.41	.2783	.28	3.37
3.41	6.36	.2717	.33	3.36
3.42	6.24	.2700	.36	3.24
3.41	6.23	.2619	.40	3.28

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.26	7.90	.2223	-.12	4.06	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.02	6.50	-.4107	.00	4.34	-.5305	.1048	-.0122	-.0768
24	-.06	6.83	-.4359	-.02	4.38	-.5331	.1854	-.0322	-.1357
36	-.12	7.54	-.4815	-.02	5.10	-.6239	.1548	-.0435	-.1152
48	-.14	7.68	-.4936	-.00	4.90	-.5964	.1657	-.0244	-.1441
60	-.18	8.36	-.5365	.01	5.46	-.6711	.1348	-.0355	-.1207
72	-.22	8.57	-.5455	.00	5.18	-.6368	.1790	-.0723	-.1425

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.46	-.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.06	7.20	.2583	.18	3.44
3.06	7.10	.2354	.21	3.43
3.00	6.92	.2574	.17	3.17
3.01	6.85	.2486	.21	3.25
2.97	6.66	.2737	.19	3.00
2.97	6.61	.2391	.17	3.13

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.74	8.06	.2440	.13	4.00	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	6.40	-.3965	-.04	4.75	-.5878	.0930	-.0049	-.0621
24	-.12	6.94	-.4314	-.08	3.94	-.4808	.1662	-.0295	-.1022
36	-.17	7.54	-.4708	-.13	5.12	-.6316	.1537	-.0347	-.1029
48	-.24	7.63	-.4754	-.16	4.65	-.5697	.1687	-.0374	-.1036
60	-.31	7.95	-.4961	-.16	5.45	-.6698	.1959	-.0836	-.1095
72	-.40	7.97	-.4955	-.17	5.15	-.6275	.2062	-.0948	-.0993

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.70	-.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.89	7.40	.3065	.26	3.23
2.85	7.27	.2741	.24	3.50
2.82	7.11	.3054	.22	3.09
2.78	7.09	.2949	.21	3.28
2.74	7.00	.3019	.19	2.96
2.69	7.00	.2943	.18	3.11

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.05	8.35	.2162	.26	3.81	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	6.20	-.3778	-.05	4.20	-.5467	.1174	-.0270	-.0679
24	-.03	6.70	-.4182	-.06	4.10	-.5303	.1498	-.0465	-.0853
36	-.08	7.18	-.4496	-.11	4.87	-.6468	.1318	-.0642	-.0657
48	-.05	7.43	-.4685	-.14	4.52	-.5961	.1538	-.0887	-.0556
60	-.08	7.60	-.4816	-.14	5.15	-.6828	.1635	-.1204	-.0575
72	-.09	8.01	-.5019	-.13	4.80	-.6397	.1804	-.1176	-.0675

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.82	-.02

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.11	7.73	.2493	.29	3.18
3.09	7.58	.2400	.27	3.23
3.05	7.46	.2689	.24	2.90
3.06	7.37	.2601	.20	3.06
3.04	7.31	.2698	.19	2.78
3.04	7.22	.2586	.20	2.93

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U'AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.36	9.14	.2920	.06	3.70	848

DT AR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.07	6.08	-.3413	-.01	4.01	-.5418	.1634	-.0947	-.0514
24	-.12	6.77	-.3852	-.03	3.90	-.5249	.0818	-.0600	-.0181
36	-.15	7.37	-.4288	-.03	4.58	-.6182	.1606	-.1282	-.0502
48	-.15	7.82	-.4556	-.05	4.60	-.6207	.1297	-.1069	-.0419
60	-.19	8.07	-.4698	-.03	4.96	-.6704	.1710	-.1625	-.0535
72	-.19	8.36	-.4844	-.03	4.82	-.6497	.1689	-.1648	-.0444

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.94	-.33

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.32	8.59	.3317	.21	3.11
3.28	8.43	.3513	.19	3.15
3.23	8.26	.3501	.17	2.90
3.23	8.14	.3639	.17	2.90
3.20	8.07	.3572	.16	2.74
3.20	7.99	.3563	.15	2.80

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12968) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.02	9.73	.2482	.12	3.94	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	6.10	-.3294	-.03	4.23	-.5427	.2304	-.1292	-.0692
24	-.07	6.66	-.3724	-.03	4.36	-.5610	.1756	-.1262	-.0458
36	-.12	7.28	-.4045	-.09	4.97	-.6475	.1135	-.1190	-.0150
48	-.16	7.80	-.4246	-.12	4.86	-.6341	.0762	-.0897	-.0013
60	-.20	8.37	-.4494	-.13	5.21	-.6781	.1053	-.1322	-.0068
72	-.25	8.83	-.4701	-.11	5.15	-.6784	.1321	-.1104	-.0229

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.52	-.26

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.68	9.19	.2640	.23	3.31
3.59	9.03	.2764	.19	3.26
3.57	8.90	.3164	.14	2.99
3.59	8.81	.3289	.13	3.04
3.58	8.69	.3305	.11	2.88
3.56	8.58	.3228	.13	2.88

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - FEBRUARY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.64	10.54	.1685	.23	3.98	848

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	6.52	-.3305	-.05	4.01	-.5068	.1314	-.0384	-.0523
24	-.07	7.26	-.3869	-.06	4.25	-.5409	.1354	-.0462	-.0640
36	-.17	7.64	-.4053	-.10	4.76	-.6068	.1067	-.0604	-.0401
48	-.14	7.92	-.4214	-.13	4.79	-.6137	.0617	-.0639	-.0073
60	-.14	8.65	-.4608	-.13	5.18	-.6636	.0573	-.0452	-.0303
72	-.20	8.99	-.4767	-.10	5.17	-.6777	.0829	-.0500	-.0522

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.06	-.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.00	9.95	.1861	.31	3.43
3.89	9.72	.1862	.30	3.35
3.84	9.64	.2008	.24	3.16
3.84	9.56	.2139	.17	3.14
3.85	9.35	.2185	.20	2.98
3.82	9.26	.2106	.24	2.93

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2	1/56 - 12/70	0	90.0	.55	3.26	-.2792	-.30	3.60	848
2	1/56 - 12/70	1	90.0	3.81	7.22	-.0335	1.72	6.61	848
2	1/56 - 12/70	2	90.0	8.15	7.73	-.0181	1.51	6.70	848
2	1/56 - 12/70	3	90.0	12.05	8.26	.0079	1.75	7.36	848
2	1/56 - 12/70	4	90.0	15.46	9.18	-.0035	2.26	8.05	848
2	1/56 - 12/70	5	90.0	19.12	10.18	.0155	2.64	8.97	848
2	1/56 - 12/70	6	90.0	23.14	11.15	.0938	3.18	9.51	848
2	1/56 - 12/70	7	90.0	26.89	12.53	.1524	3.58	10.33	848
2	1/56 - 12/70	8	90.0	30.63	14.01	.1902	3.79	11.35	848
2	1/56 - 12/70	9	90.0	34.59	15.74	.2343	4.11	12.35	848
2	1/56 - 12/70	10	90.0	38.27	16.92	.2549	4.15	13.76	848
2	1/56 - 12/70	11	90.0	42.03	17.71	.2767	4.15	14.98	848
2	1/56 - 12/70	12	90.0	44.66	17.25	.2765	4.30	14.65	848
2	1/56 - 12/70	13	90.0	44.51	15.90	.3462	4.25	12.92	848
2	1/56 - 12/70	14	90.0	41.43	13.82	.3179	3.82	11.13	848
2	1/56 - 12/70	15	90.0	36.59	11.99	.2316	3.12	9.31	848
2	1/56 - 12/70	16	90.0	31.60	10.60	.1868	2.82	8.17	848
2	1/56 - 12/70	17	90.0	25.58	9.47	.1912	2.08	6.94	848
2	1/56 - 12/70	18	90.0	19.13	8.67	.3013	1.41	5.66	848
2	1/56 - 12/70	19	90.0	13.20	7.97	.2650	1.01	4.55	848
2	1/56 - 12/70	20	90.0	8.19	7.58	.2690	.70	3.95	848
2	1/56 - 12/70	21	90.0	5.46	7.47	.2325	.20	4.41	848
2	1/56 - 12/70	22	90.0	4.26	7.90	.2223	-.12	4.06	848
2	1/56 - 12/70	23	90.0	3.74	8.06	.2440	.13	4.00	848
2	1/56 - 12/70	24	90.0	4.05	8.35	.2162	.26	3.81	848
2	1/56 - 12/70	25	90.0	4.36	9.14	.2920	.06	3.70	848
2	1/56 - 12/70	26	90.0	5.02	9.73	.2482	.12	3.94	848
2	1/56 - 12/70	27	90.0	5.64	10.54	.1685	.23	3.98	848

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.07	3.20	-.2107	.00	3.57	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	3.49	-.5422	.01	3.75	-.5241	-.2055	.3295	-.1136
24	-.07	3.81	-.5890	.03	4.48	-.6239	-.1699	.3185	-.0924
36	-.08	4.38	-.6729	.01	4.99	-.6945	-.2128	.2797	.0248
48	-.09	4.43	-.6810	.02	5.06	-.7069	-.2168	.2262	.0895
60	-.10	4.62	-.7073	.03	5.13	-.7232	-.2480	.2024	.1656
72	-.13	4.52	-.6923	.01	5.09	-.7193	-.2393	.1970	.1480

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.08	-.05

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.01	2.59	-.2095	.06	2.93
-.00	2.51	-.2308	.07	2.68
-.01	2.34	-.1962	.05	2.52
-.02	2.34	-.1885	.05	2.51
-.02	2.26	-.1528	.05	2.46
-.04	2.31	-.1735	.04	2.48

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.18	7.05	.0095	1.64	6.24	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	5.96	-.4247	-.03	5.93	-.4733	.0096	.3927	-.3570
24	-.11	8.29	-.5872	-.02	7.63	-.6097	.0069	.3015	-.2890
36	-.12	9.39	-.6605	-.03	8.60	-.6902	.0025	.1673	-.1535
48	-.16	9.69	-.6810	-.08	8	-.7084	.0022	.1001	-.0863
60	-.21	9.85	-.693.	-.11	8.	-.7125	-.0032	.0528	-.0366
72	-.31	9.85	-.6903	-.15	8.76	-.7078	-.0142	.0398	-.0118

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.22	1.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.83	5.88	.0122	2.13	4.91
1.07	5.34	.0222	1.55	4.56
1.31	5.18	.0295	1.1_	4.39
1.39	5.13	.0348	.97	4.36
1.43	5.10	.0364	.84	4.37
1.40	5.10	.0427	.77	4.40

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.28	7.30	.0412	1.31	6.13	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	5.78	-.3981	-.04	5.89	-.4811	.0163	.3448	-.2952
24	-.20	7.76	-.5273	-.02	7.31	-.5961	.0608	.2479	-.2736
36	-.25	8.99	-.6024	-.05	8.28	-.6764	.0326	.1584	-.1657
48	-.31	9.48	-.6288	-.10	8.55	-.7038	.0177	.0938	-.0868
60	-.39	9.69	-.6376	-.14	8.57	-.7043	.0173	.0573	-.0576
72	-.51	9.72	-.6359	-.17	8.67	-.7116	.0233	.0391	-.0482

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.28	1.41

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.10	6.35	.0542	3.33	4.92
3.33	5.94	.0388	2.26	4.61
3.44	5.72	.0660	1.50	4.38
3.51	5.65	.0861	1.07	4.31
3.54	5.61	.0827	.86	4.33
3.52	5.63	.0783	.79	4.30

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (1285P) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.87	8.27	.0818	1.28	6.64	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.12	5.84	-.3511	-.05	6.07	-.4605	.1343	.2557	-.3002
24	-.22	7.90	-.4719	-.04	7.65	-.5788	.1580	.1651	-.2840
36	-.32	9.18	-.5385	-.02	8.57	-.6506	.1247	.0850	-.2025
48	-.41	9.77	-.5668	-.05	8.97	-.6828	.0948	.0316	-.1275
60	-.49	10.13	-.5819	-.11	9.17	-.6940	.0662	.0129	-.0810
72	-.59	10.41	-.5976	-.16	9.27	-.6987	.0504	.0099	-.0608

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
10.73	1.34

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.52	7.45	.0591	4.51	5.49
5.53	7.08	.0451	2.96	5.13
5.50	6.88	.0595	1.92	4.92
5.50	6.79	.0819	1.31	4.81
5.51	6.72	.1023	.98	4.76
5.47	6.63	.1158	.86	4.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 30.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14 56	9 28	.0903	1.06	7.35	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.13	6.17	-.3257	-.06	6.80	-.4650	.0891	.2270	-.2249
24	-.25	8.39	-.4426	-.12	8.36	-.5772	.1272	.1492	-.2225
36	-.35	9.58	-.4994	-.16	9.31	-.6408	.1140	.0852	-.1691
48	-.48	10.12	-.5223	-.15	9.92	-.6816	.1160	.0200	-.1220
60	-.60	10.63	-.5420	-.22	10.11	-.6904	.0942	.0029	-.0857
72	-.69	11.02	-.5598	-.28	10.23	-.6977	.0794	-.0153	-.0563

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.16	1.02

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.65	8.59	.0877	5.12	6.20
7.63	8.18	.0804	3.33	5.77
7.59	7.98	.0913	2.25	5.52
7.58	7.90	.0942	1.54	5.33
7.58	7.80	.1119	1.15	5.30
7.56	7.69	.1237	.82	5.26

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERICD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.59	10.23	.1566	1.12	7.88	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.16	6.64	-.3164	-.05	6.90	-.4410	.0877	.2055	-.2078
24	-.30	8.74	-.4199	-.12	8.67	-.5585	.1351	.1278	-.2060
35	-.40	10.08	-.4809	-.17	9.63	-.6265	.1523	.0488	-.1830
48	-.54	10.69	-.5051	-.18	10.35	-.6678	.1585	-.0095	-.1497
60	-.66	11.37	-.5323	-.26	10.65	-.6822	.1591	-.0469	-.1246
72	-.78	11.76	-.5449	-.34	10.73	-.6857	.1663	-.0770	-.1094

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
17.95	.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.94	9.53	.1720	5.88	6.81
9.87	9.16	.1705	3.95	6.34
9.82	8.90	.1634	2.65	6.04
9.77	8.80	.1641	1.88	5.82
9.74	8.65	.1688	1.32	5.74
9.74	8.58	.1669	.94	5.72

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
22.67	11.10	.1958	1.45	8.66	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.21	6.94	-.3099	-.09	7.09	-.4166	.1094	.1634	-.1898
24	-.35	9.19	-.4100	-.15	9.21	-.5416	.1928	.0865	-.2127
36	-.49	10.64	-.4645	-.20	10.62	-.6351	.1874	.0217	-.1948
48	-.64	11.44	-.4954	-.22	11.25	-.6674	.1950	-.0366	-.1668
60	-.80	12.14	-.5208	-.29	11.60	-.6850	.1899	-.0684	-.1406
72	-.97	12.54	-.5343	-.36	11.71	-.6897	.2094	-.1064	-.1342

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
21.77	1.30

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.04	10.40	.2145	6.50	7.66
12.17	10.00	.2056	4.66	7.09
12.19	9.75	.2017	3.28	6.57
12.10	9.61	.2025	2.29	6.39
12.02	9.46	.2119	1.65	6.28
11.98	9.38	.2019	1.22	6.26

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
26.54	12.07	.2262	1.75	9.64	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.25	7.30	-.2973	-.10	7.33	-.3831	.1215	.1548	-.1779
24	-.40	9.88	-.4040	-.16	10.04	-.5244	.1502	.0862	-.1847
36	-.54	11.44	-.4604	-.20	11.67	-.6195	.1626	.0234	-.1662
48	-.70	12.37	-.4918	-.23	12.43	-.6555	.1870	-.0490	-.1437
60	-.85	13.14	-.5142	-.32	12.83	-.6746	.2221	-.0988	-.1461
72	-1.04	13.59	-.5282	-.42	12.93	-.6803	.2397	-.1278	-.1475

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.51	1.53

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.24	11.40	.2443	7.15	8.73
14.10	10.94	.2549	5.13	8.05
14.14	10.66	.2610	3.64	7.47
14.13	10.49	.2565	2.40	7.24
14.21	10.35	.2433	1.84	7.10
14.17	10.15	.2323	1.46	7.05

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
30.26	13.06	.2149	1.88	10.45	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.23	7.80	-.2905	-.09	7.58	-.3642	.1167	.1338	-.1677
24	-.41	10.52	-.3946	-.13	10.38	-.4991	.1546	.0852	-.1779
36	-.57	12.19	-.4500	-.17	12.15	-.5923	.1624	.0188	-.1491
48	-.75	13.15	-.4797	-.22	13.30	-.6455	.1773	-.0401	-.1270
60	-.92	14.06	-.5064	-.31	13.87	-.6698	.2197	-.0992	-.1295
72	-1.10	14.63	-.5230	-.42	14.11	-.6812	.2413	-.1252	-.1384

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.07	1.64

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.38	12.37	.2335	7.98	9.55
16.23	11.90	.2414	5.82	8.89
16.22	11.62	.2494	3.93	8.33
16.21	11.45	.2522	2.74	7.94
16.23	11.26	.2384	2.01	7.74
16.23	11.13	.2264	1.73	7.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
34.12	14.26	.1757	1.76	12.13	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.21	8.70	-.2922	-.09	8.79	-.3649	.0351	.1240	-.1084
24	-.39	11.76	-.3978	-.16	12.19	-.5070	.0818	.1056	-.1338
36	-.56	13.61	-.4551	-.22	14.17	-.5971	.0848	.0737	-.1210
48	-.75	14.86	-.4942	-.26	15.46	-.6478	.1188	.0173	-.1167
60	-.96	15.82	-.5210	-.37	16.18	-.6754	.1749	-.0574	-.1195
72	-1.17	16.48	-.5386	-.45	16.57	-.6915	.1870	-.0784	-.1172

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
32.93	1.53

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
18.17	13.57	.2006	7.27	11.17
18.18	13.01	.2133	5.98	10.30
18.24	12.65	.2266	4.59	9.61
18.27	12.37	.2228	3.47	9.17
18.31	12.17	.2015	2.41	8.92
18.29	12.02	.2009	2.07	8.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
38.06	15.53	.1485	1.75	13.59	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.18	9.62	-.2899	-.08	9.87	-.3683	-.0091	.0953	-.0593
24	-.33	13.02	-.3966	-.16	13.75	-.5086	.0203	.1078	-.0859
36	-.50	15.14	-.4593	-.26	16.22	-.5994	.0556	.0787	-.0939
48	-.74	16.56	-.4973	-.33	17.72	-.6528	.0734	.0413	-.0861
60	-.98	17.52	-.5194	-.48	18.61	-.6864	.1080	-.0027	-.0905
72	-1.26	18.34	-.5419	-.58	18.89	-.6966	.1313	-.0387	-.0858

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
36.77	1.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
20.59	14.83	.1736	5.78	12.58
20.44	14.21	.1942	5.52	11.59
20.53	13.76	.2041	4.65	10.77
20.62	13.45	.2093	3.62	10.23
20.75	13.26	.1994	2.89	9.84
20.65	13.05	.1950	2.24	9.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12853) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
41.75	15.95	.1332	1.47	15.24	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.18	9.42	-.2756	-.06	10.91	-.3604	-.0239	.0696	-.0280
24	-.29	13.03	-.3793	-.14	15.38	-.5039	-.0324	.1105	-.0415
36	-.45	15.31	-.4412	-.27	18.29	-.5993	-.0067	.0975	-.0435
48	-.66	16.86	-.4841	-.34	20.13	-.6608	.0308	.0526	-.0431
60	-.91	17.82	-.5050	-.45	21.06	-.6928	.0756	-.0020	-.0466
72	-1.20	18.46	-.5176	-.53	21.35	-.7025	.1170	-.0462	-.0522

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.36	1.13

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
22.72	15.33	.1566	4.87	14.19
22.72	14.74	.1869	5.32	13.09
22.92	14.30	.2083	4.57	12.12
22.97	13.95	.2143	3.43	11.38
23.10	13.77	.2034	2.46	10.96
23.14	13.65	.1894	1.88	10.83

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
44.58	15.38	.1701	1.53	14.81	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.11	8.96	-.2715	-.07	9.83	-.3335	.0577	-.0181	-.0024
24	-.17	12.42	-.3711	-.16	14.23	-.4752	.0494	.0083	-.0271
36	-.34	14.59	-.4339	-.22	17.10	-.5688	.0609	.0034	-.0353
48	-.47	15.91	-.4681	-.27	19.14	-.6344	.0802	-.0132	-.0434
60	-.66	16.77	-.4850	-.36	20.26	-.6728	.1094	-.0424	-.0492
72	-.89	17.64	-.5054	-.43	20.68	-.6858	.1463	-.0709	-.0634

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
43.35	1.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
24.28	14.80	.1869	.95	13.96
24.58	14.28	.2070	2.49	13.02
24.61	13.86	.2250	2.50	12.17
24.75	13.59	.2347	2.33	11.44
24.98	13.45	.2353	1.96	10.95
25.03	13.27	.2255	1.81	10.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
44.61	13.79	.1882	1.66	13.10	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.06	8.29	-.2810	-.09	8.50	-.3278	-.0097	.0148	.0156
24	-.07	10.58	-.3496	-.16	12.24	-.4652	.0467	.0159	-.0233
36	-.15	12.33	-.4052	-.25	15.06	-.5678	.0708	.0083	-.0398
48	-.25	13.60	-.4390	-.35	16.78	-.6289	.1156	-.0121	-.0667
60	-.36	14.40	-.4565	-.50	17.77	-.6651	.1528	-.0449	-.0789
72	-.51	14.94	-.4677	-.62	18.10	-.6747	.1866	-.0740	-.0910

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
43.54	1.38

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
24.27	13.23	.2168	1.72	12.37
24.76	12.92	.2299	2.93	11.58
24.85	12.60	.2465	3.12	10.76
25.19	12.39	.2481	3.39	10.15
25.48	12.27	.2438	3.05	9.75
25.62	12.19	.2320	2.75	9.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
41.24	12.35	.1337	1.42	10.43	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	8.25	-.3215	-.11	7.15	-.3431	.0218	.0707	-.0545
24	-.07	10.20	-.3939	-.17	10.06	-.4784	.0417	.0826	-.0748
36	-.14	11.45	-.4378	-.25	12.00	-.5679	.0896	.0562	-.0950
48	-.27	12.72	-.4758	-.32	13.26	-.6249	.1129	.0391	-.1084
60	-.38	13.47	-.4963	-.40	13.87	-.6528	.1240	.0150	-.0986
72	-.54	13.89	-.5068	-.49	14.31	-.6716	.1321	.0036	-.0977

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
40.37	1.17

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
21.74	11.68	.1582	4.78	9.78
21.97	11.33	.1725	5.00	9.10
22.25	11.08	.1722	4.70	8.51
22.63	10.84	.1731	4.38	8.06
22.82	10.71	.1787	3.71	7.84
22.91	10.64	.1808	3.48	7.67

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
36.18	10.66	.1018	1.39	9.08	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	7.66	-.3434	-.10	6.54	-.3564	-.0017	.1040	-.0727
24	-.12	9.31	-.4162	-.17	8.85	-.4883	.0243	.1072	-.0896
36	-.20	10.66	-.4716	-.25	10.44	-.5755	.0502	.1009	-.1076
48	-.31	11.71	-.5120	-.32	11.41	-.6293	.0568	.0715	-.0895
60	-.47	12.45	-.5392	-.41	12.10	-.6653	.0731	.0456	-.0864
72	-.59	12.82	-.5530	-.53	12.58	-.6920	.0896	.0204	-.0828

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
35.51	1.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
19.01	9.99	.1281	5.05	8.44
19.13	9.66	.1371	4.78	7.85
19.34	9.36	.1419	4.56	7.33
19.49	9.14	.1514	3.54	6.99
19.60	8.97	.1535	3.04	6.73
19.61	8.88	.1505	2.58	6.51

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
30.54	9.31	.0516	1.15	7.78	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	6.90	-.3515	-.06	5.38	-.3467	.0260	.0924	-.0979
24	-.11	8.58	-.4360	-.13	7.31	-.4720	.0006	.1174	-.0969
36	-.20	9.76	-.4950	-.20	8.63	-.5585	.0126	.1095	-.0951
48	-.28	10.59	-.5338	-.27	9.66	-.6238	.0333	.0950	-.0990
60	-.42	11.05	-.5529	-.37	10.28	-.6620	.0345	.0830	-.0828
72	-.52	11.44	-.5720	-.51	10.61	-.6860	.0455	.0634	-.0801

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
30.22	1.19

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.08	8.67	.0610	3.98	7.26
16.04	8.33	.0731	3.72	6.80
16.08	8.04	.0788	3.27	6.39
16.18	7.83	.0789	3.01	6.02
16.24	7.73	.0892	2.65	5.78
16.22	7.62	.0855	2.27	5.61

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
24.31	8.46	.0734	1.22	6.85	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.01	6.54	-.3776	-.06	5.04	-.3736	.0430	.1268	-.1528
24	-.06	8.10	-.4633	-.13	6.50	-.4826	.0377	.1430	-.1704
36	-.17	9.28	-.5256	-.18	7.73	-.5703	.0078	.1436	-.1327
48	-.26	9.89	-.5571	-.22	8.50	-.6250	-.0020	.1359	-.1052
60	-.32	10.33	-.5736	-.28	9.10	-.6687	-.0016	.1238	-.0803
72	-.45	10.50	-.5785	-.38	9.47	-.6992	.0053	.1003	-.0629

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
24.35	1.28

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.30	7.74	.0827	4.18	6.28
12.37	7.38	.0864	3.83	5.90
12.39	7.11	.1109	3.16	5.53
12.42	6.97	.1307	2.76	5.27
12.60	6.89	.1508	2.44	5.02
12.67	6.88	.1557	2.06	4.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
17.64	7.69	.0998	.82	5.64	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.01	6.91	-.4398	-.07	4.62	-.4062	.0122	.0981	-.1145
24	-.04	8.11	-.5209	-.14	5.53	-.4909	.0313	.1187	-.1538
36	-.13	8.72	-.5581	-.19	6.46	-.5757	.0466	.1006	-.1365
48	-.24	9.08	-.5811	-.26	6.96	-.6202	.0338	.1045	-.1104
60	-.32	9.53	-.5971	-.32	7.42	-.6594	.0590	.0668	-.0940
72	-.42	9.66	-.5950	-.37	7.73	-.6849	.0534	.0525	-.0741

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
17.71	.80

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.84	6.86	.1217	1.88	5.12
8.77	6.48	.1290	2.01	4.86
8.81	6.32	.1381	1.80	4.56
8.75	6.22	.1659	1.69	4.37
8.93	6.15	.1690	1.39	4.20
9.04	6.17	.1756	1.18	4.08

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.16	6.97	.1247	.49	4.60	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	6.94	-.4941	-.06	4.03	-.4377	.0597	.0310	-.0864
24	-.04	7.60	-.5396	-.13	4.97	-.5375	.0668	.0634	-.1284
36	-.06	8.24	-.5832	-.14	5.74	-.6151	.1026	.0111	-.1222
48	-.12	8.39	-.5916	-.18	6.00	-.6372	.0955	.0000	-.1019
60	-.22	8.92	-.6231	-.22	6.12	-.6528	.0883	-.0133	-.0822
72	-.30	8.91	-.6121	-.27	6.25	-.6674	.0991	-.0417	-.0697

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.05	.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.67	6.05	.1477	.65	4.13
5.66	5.84	.1551	.86	3.85
5.69	5.65	.1453	.66	3.61
5.68	5.61	.1546	.55	3.54
5.67	5.45	.1668	.41	3.48
5.73	5.51	.1582	.27	3.43

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.66	6.55	.1189	.22	3.97	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.30	.23

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	k (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.01	6.73	-.5132	-.04	3.95	-.4937	-.0090	.0543	-.0404	3.48	5.61	.1673	.28	3.45
24	-.10	7.39	-.5646	-.06	4.28	-.5335	.0391	.0328	-.0707	3.45	5.39	.1602	.26	3.35
36	-.16	7.89	-.6010	-.05	4.99	-.6265	.0088	.0525	-.0528	3.42	5.22	.1946	.27	3.09
48	-.22	8.00	-.6051	-.06	5.03	-.6294	.0503	.0264	-.0764	3.42	5.20	.1718	.27	3.08
60	-.30	8.44	-.6421	-.06	5.30	-.6618	.0416	.0370	-.0720	3.37	5.01	.1969	.28	2.97
72	-.40	8.37	-.6377	-.09	5.21	-.6491	.0638	.0203	-.0790	3.32	5.04	.1831	.26	3.01

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.71	6.21	.0719	-.10	3.61	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	6.30	-.5060	-.01	4.12	-.5737	-.0235	.0656	-.0365
24	-.09	6.81	-.5519	.00	4.02	-.5632	.0446	.0369	-.0882
36	-.12	7.30	-.5943	.03	4.61	-.6447	.0232	.0448	-.0768
48	-.14	7.42	-.6058	.02	4.47	-.6233	.0620	-.0014	-.0776
60	-.21	7.63	-.6275	.01	5.00	-.6911	.0190	.0545	-.0730
72	-.20	7.45	-.6218	.01	4.84	-.6681	.0723	.0009	-.0858

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.10	-.11

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.15	5.35	.1100	.04	2.95
2.12	5.16	.0821	.06	2.98
2.10	4.96	.0946	.06	2.75
2.08	4.93	.0741	.02	2.82
2.03	4.82	.1141	.07	2.60
2.01	4.86	.0775	.04	2.68

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.07	6.31	.0503	-.14	3.67	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.41	-.07

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.09	5.60	-.4466	-.01	4.38	-.6022	.0460	.0462	-.0817	1.33	5.63	.0478	-.03	2.92
24	-.15	6.23	-.4987	.01	3.85	-.5351	.0783	.0268	-.1066	1.30	5.45	.0373	-.03	3.09
36	-.21	6.84	-.5437	.00	4.87	-.6734	.0077	.0635	-.0668	1.27	5.28	.0692	-.04	2.70
48	-.28	6.99	-.5558	-.01	4.48	-.6241	.0201	.0150	-.0412	1.23	5.24	.0615	-.08	2.87
60	-.33	7.30	-.5844	-.01	5.13	-.7135	-.0079	.0343	-.0222	1.19	5.12	.0903	-.08	2.57
72	-.36	7.40	-.5977	-.01	4.57	-.6404	.0335	-.0013	-.0351	1.17	5.06	.0647	-.09	2.82

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.83	6.43	.0543	-.28	3.59	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	5.41	-.4297	.01	4.05	-.5752	.0215	.0346	-.0623
24	-.04	6.07	-.4751	.02	3.79	-.5384	.0393	.0311	-.0971
36	-.12	6.64	-.5199	.02	4.63	-.6524	.0531	.0126	-.0950
48	-.15	6.84	-.5374	.04	4.40	-.6213	.0203	.0041	-.0580
60	-.20	7.09	-.5598	.01	4.98	-.7048	.0093	-.0242	-.0244
72	-.24	7.31	-.5792	-.01	4.60	-.6560	-.0036	-.0113	-.0238

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.03	-.20

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.85	5.80	.0525	-.17	2.94
.85	5.64	.0362	-.17	3.02
.80	5.48	.0260	-.17	2.72
.78	5.42	.0413	-.16	2.82
.75	5.33	.0464	-.17	2.55
.73	5.24	.0501	-.18	2.71

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.53	6.81	.0817	-.43	3.71	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	5.66	-.4246	.01	4.12	-.5557	.1259	-.0653	-.0635
24	-.11	6.11	-.4544	.02	4.18	-.5695	.0697	.0089	-.0803
36	-.18	6.64	-.4933	-.02	4.68	-.6345	.1407	-.0677	-.0925
48	-.28	6.69	-.4967	-.04	4.66	-.6360	.0859	-.0245	-.0691
60	-.38	7.33	-.5433	-.05	5.03	-.6861	.1099	-.0694	-.0702
72	-.48	7.28	-.5486	-.08	4.91	-.6689	.0518	-.0067	-.0583

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.31	-.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.67	6.16	.0643	-.26	3.08
.68	6.06	.0793	-.26	3.04
.61	5.92	.0499	-.28	2.87
.55	5.91	.0788	-.28	2.86
.50	5.72	.0602	-.29	2.70
.45	5.69	.0935	-.30	2.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.82	7.57	.1226	-.56	3.42	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	6.19	-.4154	-.04	3.54	-.5213	.0574	-.0485	-.0107
24	-.11	6.38	-.4248	-.02	3.63	-.5394	.0283	-.0168	-.0150
36	-.17	6.98	-.4608	-.04	4.17	-.6158	.0660	-.0403	-.0271
48	-.26	7.12	-.4754	-.04	4.24	-.6231	.0551	-.0230	-.0291
60	-.34	7.54	-.5059	-.05	4.53	-.6696	.0931	-.0568	-.0407
72	-.43	7.76	-.5224	-.07	4.52	-.6739	.0527	-.0454	-.0099

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.13	-.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.72	6.89	.1409	-.35	2.92
.70	6.85	.1494	-.34	2.88
.68	6.72	.1518	-.35	2.70
.62	6.66	.1597	-.35	2.68
.58	6.53	.1533	-.35	2.54
.52	6.46	.1759	-.36	2.53

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.62	8.32	.1246	-.61	3.35	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	5.49	-.3361	-.00	3.30	-.4940	.0604	-.0443	-.0087
24	-.10	6.17	-.3700	-.01	3.67	-.5459	.0755	-.0353	-.0239
36	-.17	6.92	-.4113	-.01	4.13	-.6126	.1186	-.0657	-.0400
48	-.24	7.01	-.4252	.00	4.26	-.6323	.1132	-.0604	-.0430
60	-.28	7.49	-.4598	-.02	4.51	-.6660	.1409	-.0845	-.0532
72	-.32	7.94	-.4882	-.03	4.80	-.6778	.1026	-.0754	-.0297

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.01	-.54

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.07	7.84	.1410	-.35	2.91
1.06	7.73	.1461	-.34	2.81
1.03	7.59	.1429	-.34	2.65
.99	7.53	.1457	-.33	2.60
.95	7.39	.1411	-.34	2.50
.92	7.26	.1584	-.36	2.46

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12668) - CAPE KENNEDY
MONTH OF RECORD - MARCH
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.04	9.42	.1066	-.62	3.65	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	5.60	-.3043	.01	3.82	-.5239	-.0343	-.0253	.0355
24	-.08	6.35	-.3421	.02	3.89	-.5274	.0555	-.0738	.0191
36	-.12	7.27	-.3916	.00	4.51	-.6121	.0264	-.0646	.0313
48	-.21	7.62	-.4169	.01	4.53	-.6139	.1033	-.1000	-.0071
60	-.29	8.12	-.4471	-.01	4.97	-.6726	.1047	-.0928	-.0185
72	-.37	8.73	-.4805	-.01	4.99	-.6765	.1366	-.1150	-.0347

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.41	-.56

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.27	8.97	.1383	-.38	3.10
1.23	8.84	.1272	-.38	3.09
1.22	8.66	.1471	-.38	2.88
1.16	8.55	.1213	-.37	2.87
1.13	8.42	.1272	-.37	2.70
1.08	8.26	.1119	-.37	2.68

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3	1/56 - 12/70	0	90.0	.07	3.20	-.2107	.00	3.57	930
3	1/56 - 12/70	1	90.0	3.18	7.05	.0096	1.64	6.24	930
3	1/56 - 12/70	2	90.0	7.28	7.30	.0412	1.31	6.13	930
3	1/56 - 12/70	3	90.0	10.87	8.27	.0818	1.28	6.64	930
3	1/56 - 12/70	4	90.0	14.56	9.28	.0903	1.08	7.35	930
3	1/56 - 12/70	5	90.0	18.59	10.23	.1566	1.12	7.88	930
3	1/56 - 12/70	6	90.0	22.67	11.10	.1958	1.45	8.66	930
3	1/56 - 12/70	7	90.0	26.54	12.07	.2262	1.75	9.64	930
3	1/56 - 12/70	8	90.0	30.26	13.06	.2149	1.88	10.45	930
3	1/56 - 12/70	9	90.0	34.12	14.26	.1757	1.76	12.13	930
3	1/56 - 12/70	10	90.0	38.06	15.53	.1485	1.75	13.59	930
3	1/56 - 12/70	11	90.0	41.75	15.95	.1332	1.47	15.24	930
3	1/56 - 12/70	12	90.0	44.58	15.38	.1701	1.53	14.81	930
3	1/56 - 12/70	13	90.0	44.61	13.79	.1882	1.66	13.10	930
3	1/56 - 12/70	14	90.0	41.24	12.35	.1337	1.42	10.43	930
3	1/56 - 12/70	15	90.0	36.18	10.66	.1018	1.39	9.08	930
3	1/56 - 12/70	16	90.0	30.54	9.31	.0516	1.15	7.78	930
3	1/56 - 12/70	17	90.0	24.31	8.46	.0734	1.22	6.85	930
3	1/56 - 12/70	18	90.0	17.64	7.69	.0998	.82	5.64	930
3	1/56 - 12/70	19	90.0	11.16	6.57	.1247	.49	4.60	930
3	1/56 - 12/70	20	90.0	6.66	6.55	.1189	.22	3.97	930
3	1/56 - 12/70	21	90.0	3.71	6.21	.0719	-.10	3.61	930
3	1/56 - 12/70	22	90.0	2.07	6.31	.0503	-.14	3.67	930
3	1/56 - 12/70	23	90.0	.83	6.43	.0543	-.28	3.59	930
3	1/56 - 12/70	24	90.0	.53	6.81	.0817	-.43	3.71	930
3	1/56 - 12/70	25	90.0	.82	7.57	.1226	-.56	3.42	930
3	1/56 - 12/70	26	90.0	1.62	8.32	.1246	-.61	3.35	930
3	1/56 - 12/70	27	90.0	2.04	9.42	.1066	-.62	3.65	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.08	3.18	-.1579	.47	3.14	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.02	3.51	-.5560	.02	3.25	-.5241	-.2237	.3274	-.1052
24	-.03	3.47	-.5596	.02	3.79	-.6153	-.1102	.3098	-.1625
36	-.06	4.33	-.6968	.04	4.38	-.7067	-.1771	.2602	-.0174
48	-.05	3.92	-.6359	.05	4.50	-.7286	-.1165	.1708	-.0049
60	-.08	4.37	-.7082	.05	4.62	-.7471	-.1699	.1724	.0702
72	-.07	3.95	-.6418	.05	4.52	-.7338	-.1209	.1291	.0398

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.07	.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.61	2.53	-.1292	.06	2.58
-.61	2.53	-.1947	.03	2.35
-.59	2.23	-.1490	.16	2.18
-.57	2.44	-.2032	.19	2.13
-.58	2.24	-.1560	.23	2.08
-.57	2.43	-.1975	.23	2.13

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.98	6.56	-.0311	1.20	5.26	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.02	4.99	-.3899	-.01	4.69	-.4507	.0565	.3550	-.3526
24	-.05	6.83	-.5375	-.01	6.08	-.5872	.0561	.3073	-.3435
36	-.07	8.07	-.6369	-.01	7.15	-.6892	.0429	.1817	-.2267
48	-.10	8.34	-.6632	-.00	7.45	-.7225	.0106	.1055	-.1159
60	-.13	8.40	-.6703	-.01	7.50	-.7271	-.0022	.0729	-.0633
72	-.09	8.27	-.6591	-.00	7.48	-.7298	-.0004	.0467	-.0406

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.89	1.20

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.04	5.64	-.0704	.93	4.24
.08	5.14	-.0974	.81	3.86
.25	4.89	-.1057	.71	3.64
.33	4.86	-.0791	.65	3.59
.36	4.85	-.0581	.63	3.59
.40	4.93	-.0589	.61	3.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.65	7.14	.0651	.16	5.17	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	5.03	-.3684	-.04	4.46	-.4313	.0865	.2955	-.3109
24	-.08	6.60	-.4824	-.06	5.81	-.5675	.1206	.2398	-.3195
36	-.09	7.83	-.5747	-.07	6.78	-.6645	.1054	.1415	-.2476
48	-.15	8.27	-.6101	-.08	7.15	-.7022	.0995	.0645	-.1838
60	-.17	8.54	-.6340	-.06	7.27	-.7152	.0724	.0262	-.1166
72	-.17	8.58	-.6364	-.06	7.32	-.7220	.0902	-.0153	-.1034

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.46	.19

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.84	6.33	.0613	1.24	4.34
1.84	5.96	.0354	.89	3.95
1.80	5.69	.0314	.52	3.71
1.75	5.59	.0300	.32	3.62
1.72	5.50	.0575	.20	3.59
1.73	5.50	.0413	.14	3.57

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.04	8.04	.0509	-.82	5.97	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	4.94	-.3170	-.07	4.85	-.4063	.1094	.2878	-.2821
24	-.13	6.86	-.4419	-.11	6.44	-.5430	.1053	.2435	-.2845
36	-.18	8.13	-.5273	-.15	7.41	-.6271	.083E	.1607	-.2200
48	-.26	8.78	-.5738	-.16	7.78	-.6603	.0853	.0857	-.1729
60	-.32	9.07	-.5975	-.12	8.04	-.6860	.0833	.0454	-.1343
72	-.34	9.20	-.6055	-.11	8.16	-.7007	.0916	.0115	-.1181

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.91	-.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.49	7.36	.0417	1.95	5.07
3.27	6.95	.0319	1.09	4.67
3.06	6.68	.0356	.43	4.47
2.93	6.51	.0280	.06	4.40
2.83	6.41	.0335	-.10	4.30
2.80	6.38	.0239	-.20	4.23

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.60	8.74	.0932	-1.40	6.56	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.07	5.03	-.2950	-.07	5.27	-.4033	.1801	.2426	-.2781
24	-.16	6.97	-.4104	-.08	6.94	-.5297	.1586	.1798	-.2657
36	-.25	8.31	-.4913	-.09	7.79	-.6018	.1621	.0989	-.2417
48	-.35	8.96	-.5327	-.13	8.41	-.6517	.1524	.0368	-.1995
60	-.41	9.38	-.5615	-.06	8.71	-.6797	.1507	-.0155	-.1640
72	-.45	9.60	-.5756	-.02	8.82	-.6878	.1477	-.0348	-.1495

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.44	-1.12

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.26	8.11	.0765	2.81	5.62
4.79	7.77	.0728	1.35	5.28
4.55	7.47	.0589	.53	5.07
4.31	7.32	.0531	.01	4.89
4.15	7.20	.0492	-.30	4.78
4.09	7.12	.0479	-.42	4.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.13	9.69	.1393	-1.70	6.83	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	5.52	-.2897	-.05	5.50	-.4065	.1648	.2004	-.2383
24	-.25	7.30	-.3874	-.08	7.01	-.5205	.2114	.1239	-.2570
36	-.39	8.63	-.4594	-.12	8.07	-.5939	.2381	.0476	-.2564
48	-.50	9.37	-.5013	-.15	8.64	-.6411	.2304	-.0169	-.2239
60	-.57	9.89	-.5297	-.07	8.95	-.6672	.2419	-.0763	-.2048
72	-.58	10.16	-.5475	-.02	9.08	-.6760	.2209	-.0914	-.1802

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.03	-1.33

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.54	9.09	.1361	2.80	5.96
6.23	8.77	.1176	1.58	5.60
5.95	8.48	.0979	.77	5.33
5.62	8.32	.0894	.09	5.16
5.43	8.19	.0739	-.32	5.05
5.31	8.09	.0790	-.55	5.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.90	10.63	.1611	-1.93	7.29	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.09	5.78	-.2736	-.05	5.69	-.3888	.1323	.1740	-.1911
24	-.28	7.71	-.3709	-.08	7.27	-.4975	.2378	.0970	-.2451
36	-.41	9.02	-.4361	-.12	8.5[illegible]	-.[illegible]32	.2787	.0126	-.2509
48	-.55	9.70	-.4747	-.17	9.12	-.6314	.2763	-.0557	-.2228
60	-.64	10.45	-.5102	-.12	9.38	-.6479	.2695	-.0987	-.2076
72	-.68	10.93	-.5359	-.10	9.33	-.6457	.2635	-.1215	-.1970

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
13.75	-1.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.94	10.09	.1697	2.94	6.51
7.87	9.72	.1441	1.97	6.12
7.54	9.46	.1197	1.08	5.77
7.06	9.30	.1098	.24	5.58
6.86	9.11	.0983	-.31	5.53
6.71	8.95	.0922	-.62	5.56

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
16.79	11.65	.1917	-2.27	8.02	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.28	5.83	-.2498	-.03	6.33	-.3932	.1460	.1286	-.1465
24	-.31	8.08	-.3504	-.09	7.94	-.5006	.2479	.0517	-.2114
36	-.51	9.56	-.4171	-.13	9.18	-.5799	.3034	-.0399	-.2338
48	-.66	10.50	-.4648	-.19	9.73	-.6239	.3178	-.1084	-.2260
60	-.75	11.21	-.5022	-.16	9.91	-.6358	.3121	-.1471	-.2124
72	-.79	11.80	-.5306	-.14	9.90	-.6369	.3032	-.1621	-.2046

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.60	-2.07

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.43	11.20	.2050	3.18	7.21
9.44	10.81	.1804	1.96	6.78
9.13	10.51	.1492	.94	6.43
8.62	10.27	.1315	.06	6.22
8.23	10.05	.1225	-.56	6.17
8.04	9.86	.1186	-.86	6.17

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
19.71	12.80	.1907	-2.69	8.76	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.11	6.84	-.2681	-.02	6.71	-.3825	.1114	.1290	-.1482
24	-.35	9.24	-.3641	-.08	8.48	-.4879	.1864	.0705	-.1889
36	-.56	10.85	-.4309	-.10	9.83	-.5663	.2439	-.0077	-.2095
48	-.75	11.84	-.4754	-.13	10.56	-.6145	.2641	-.0761	-.2042
60	-.85	12.63	-.5121	-.10	10.80	-.6299	.2810	-.1343	-.1930
72	-.91	13.26	-.5414	-.05	10.93	-.6381	.2958	-.1679	-.1929

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
19.58	-2.52

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.88	12.24	.2048	3.01	7.95
10.75	11.82	.1940	1.78	7.51
10.46	11.47	.1712	.86	7.13
9.99	11.21	.1519	-.03	6.87
9.57	10.97	.1359	-.77	6.79
9.31	10.75	.1217	-1.10	6.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/73
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
22.54	14.47	.7126	-3.06	10.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.14	7.61	-.2669	-.02	7.60	-.3798	.1096	.1133	-.1361
24	-.40	10.48	-.3694	-.07	9.96	-.5016	.1721	.0673	-.1744
36	-.63	12.23	-.4334	-.10	11.41	-.5751	.2322	-.0019	-.2005
48	-.85	13.50	-.4820	-.14	12.19	-.6186	.2613	-.0792	-.1973
60	-.97	14.31	-.5146	-.09	12.34	-.6256	.2825	-.1398	-.1861
72	-1.06	14.97	-.5419	-.05	12.57	-.6375	.3022	-.1886	-.1798

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
22.32	-2.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.23	13.85	.2295	3.04	9.11
12.02	13.34	.2280	1.84	8.51
11.81	12.95	.2092	1.00	8.07
11.31	12.63	.1886	-.13	7.81
10.86	12.39	.1720	-.99	7.79
10.47	12.15	.1548	-1.58	7.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
25.57	15.70	.2638	-3.69	11.49	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.15	8.09	-.2677	-.07	8.46	-.3681	.1577	.0611	-.1260
24	-.44	11.11	-.3654	-.11	11.03	-.4848	.2354	.0050	-.1767
36	-.70	13.12	-.4293	-.14	12.72	-.5619	.2895	-.0712	-.1962
48	-.88	14.41	-.4747	-.23	13.61	-.6076	.3289	-.1476	-.2003
60	-1.04	15.28	-.5078	-.23	14.13	-.6297	.3599	-.2138	-.1985
72	-1.15	16.09	-.5386	-.20	14.32	-.6392	.3700	-.2528	-.1948

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
25.32	-3.37

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
13.53	15.07	.2799	2.47	10.60
13.54	14.54	.2729	1.42	9.95
13.21	14.13	.2579	.31	9.44
12.66	13.80	.2385	-.80	9.11
12.05	13.52	.2170	-1.77	8.93
11.58	13.23	.2014	-2.43	8.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X, Y, XP, YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
28.80	16.91	.2498	-4.35	12.98	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.14	8.62	-.2605	-.08	8.51	-.3946	.1150	.0356	-.0820
24	-.45	11.61	-.3557	-.12	12.49	-.4856	.1888	-.0249	-.1145
36	-.70	13.59	-.4194	-.15	14.20	-.5566	.2382	-.0945	-.1319
48	-.92	15.09	-.4666	-.19	15.15	-.5982	.2794	-.1643	-.1401
60	-1.04	16.27	-.5090	-.20	15.99	-.6262	.3131	-.2227	-.1495
72	-1.17	17.01	-.5379	-.16	16.52	-.6393	.3303	-.2707	-.1452

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
28.59	-4.06

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.84	16.30	.2679	1.07	12.04
14.41	15.78	.2672	-.06	11.31
13.98	15.34	.2552	-1.20	10.77
13.51	14.95	.2361	-2.29	10.40
12.98	14.55	.2126	-3.11	10.11
12.39	14.24	.1925	-3.95	9.94

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
31.91	17.34	.2684	-4.73	13.94	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.19	8.31	-.2471	-.10	9.81	-.3463	.1555	-.0142	-.0669
24	-.53	11.29	-.3408	-.20	12.88	-.4617	.2224	-.0712	-.1027
36	-.78	13.55	-.4069	-.29	14.82	-.5351	.2731	-.1374	-.1246
48	-1.06	15.04	-.4544	-.32	16.05	-.5849	.2958	-.2000	-.1279
60	-1.24	16.27	-.4983	-.35	16.87	-.6123	.3205	-.2465	-.1398
72	-1.38	17.10	-.5289	-.33	17.34	-.6306	.3359	-.2856	-.1452

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
31.73	-4.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
15.99	16.79	.2807	-.27	13.07
15.51	16.29	.2779	-1.15	12.36
15.22	15.83	.2660	-2.20	11.78
14.62	15.44	.2510	-3.46	11.30
14.06	15.03	.2302	-4.20	11.00
13.58	14.70	.2091	-4.88	10.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
33.91	16.46	.3013	-4.76	13.14	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.23	7.52	-.2373	-.13	8.55	-.3136	.1755	-.0371	-.0618
24	-.58	10.45	-.3298	-.26	11.69	-.4387	.2383	-.0835	-.1011
36	-.89	12.67	-.4009	-.31	13.83	-.5248	.2922	-.1478	-.1290
48	-1.13	13.86	-.4436	-.38	15.00	-.5733	.3307	-.2216	-.1360
60	-1.34	14.92	-.4825	-.37	15.92	-.6077	.3375	-.2654	-.1346
72	-1.48	15.80	-.5127	-.35	16.22	-.6220	.3449	-.2884	-.1416

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
33.71	-4.75

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.73	15.99	.3103	-1.41	12.48
16.56	15.54	.3111	-1.56	11.81
16.13	15.08	.3024	-2.32	11.19
15.33	14.75	.2849	-3.80	10.76
14.69	14.41	.2739	-4.75	10.40
14.43	14.12	.2609	-5.10	10.24

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
32.07	14.38	.3158	-4.34	11.44	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.22	7.29	-.2603	-.09	7.26	-.3037	.1507	-.0005	-.0805
24	-.51	9.52	-.3373	-.21	9.81	-.4176	.2407	-.0498	-.1238
36	-.77	11.20	-.4028	-.29	11.76	-.5070	.3034	-.1244	-.1455
48	-.89	12.46	-.4482	-.39	12.95	-.5637	.3505	-.1821	-.1730
60	-1.02	13.46	-.4889	-.39	13.80	-.6006	.3505	-.2232	-.1692
72	-1.12	14.18	-.5224	-.40	14.26	-.6238	.3715	-.2703	-.1755

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
31.89	-4.30

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.34	13.87	.3299	.05	10.88
16.38	13.53	.3290	-.20	10.37
15.63	13.16	.3219	-1.25	9.85
15.43	12.85	.3050	-1.84	9.44
14.84	12.55	.2987	-2.82	9.14
14.23	12.26	.2794	-3.63	8.92

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
28.08	12.04	.2965	-3.47	9.14	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.20	6.40	-.2851	-.08	5.68	-.3055	.0092	.0539	-.0632
24	-.43	7.88	-.3501	-.20	7.58	-.4095	.1493	.0152	-.1221
36	-.67	9.31	-.4170	-.30	9.02	-.4903	.2314	-.0516	-.1525
48	-.83	10.23	-.4589	-.39	9.98	-.5443	.2899	-.1128	-.1736
60	-.91	11.26	-.5070	-.43	10.67	-.5809	.3121	-.1619	-.1782
72	-1.02	11.96	-.5402	-.43	11.18	-.6105	.3337	-.2092	-.1807

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
28.03	-3.39

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
13.40	11.52	.3226	.44	8.69
13.69	11.25	.3208	.72	8.31
13.36	10.92	.3128	-.05	7.95
13.08	10.69	.2987	-.67	7.66
12.67	10.38	.2890	-1.47	7.44
12.29	10.13	.2748	-2.14	7.24

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
23.03	10.26	.2568	-3.06	7.96	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.16	5.83	-.3078	-.09	5.13	-.3134	.0278	.0939	-.0918
24	-.35	6.92	-.3687	-.15	6.73	-.4163	.1243	.0642	-.1227
36	-.55	8.15	-.4348	-.21	8.04	-.4987	.1716	.0226	-.1386
48	-.71	8.99	-.4773	-.27	8.94	-.5569	.2053	-.0495	-.1274
60	-.79	9.79	-.5190	-.29	9.59	-.5968	.2148	-.0897	-.1240
72	-.88	10.28	-.5508	-.28	10.00	-.6190	.2411	-.1277	-.1328

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
22.98	-2.97

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.07	9.72	.2898	1.60	7.52
10.95	9.50	.2961	1.54	7.18
10.72	9.21	.3023	.91	6.85
10.39	9.01	.2976	-.27	6.59
10.21	8.77	.2958	-.94	6.38
9.92	8.56	.2845	-1.30	6.25

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
17.30	9.19	.2746	-2.45	6.71	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.21	5.89	-.3365	-.06	4.87	-.3571	-.0542	.1606	-.1018
24	-.39	7.20	-.4154	-.09	6.28	-.4637	-.0363	.1570	-.0893
36	-.54	8.08	-.4699	-.14	7.28	-.5431	.0373	.0966	-.0951
48	-.69	8.63	-.5016	-.19	7.79	-.5874	.0954	.0381	-.1059
60	-.79	9.14	-.5369	-.21	8.26	-.6184	.1493	-.0135	-.1302
72	-.88	9.56	-.5640	-.22	8.59	-.6420	.1667	-.0581	-.1232

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
17.33	-2.36

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.43	8.59	.3325	1.48	6.20
8.16	8.31	.3694	.98	5.87
8.02	8.08	.3796	.40	5.58
7.93	7.94	.3735	-.01	5.39
7.78	7.74	.3582	-.28	5.25
7.58	7.59	.3530	-.73	5.14

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.91	7.85	.2764	-2.03	5.23	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.16	5.35	-.3566	-.01	4.00	-.3761	-.0067	.1458	-.1141
24	-.30	6.27	-.4215	-.04	5.01	-.4768	.0045	.1700	-.1213
36	-.42	6.91	-.4653	-.08	5.81	-.5632	.0454	.1462	-.1302
48	-.56	7.46	-.5049	-.08	6.34	-.6162	.0838	.0786	-.1180
60	-.69	7.80	-.5373	-.11	6.62	-.6468	.1067	.0350	-.1188
72	-.77	7.89	-.5538	-.12	6.78	-.6643	.1642	-.0290	-.1353

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.01	-1.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.50	7.28	.3355	.49	4.79
5.31	7.06	.3756	.55	4.51
5.21	6.89	.3975	.42	4.23
5.02	6.75	.4023	.00	4.06
4.81	6.60	.4009	-.25	3.95
4.61	6.53	.3727	-.43	3 89

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.31	7.02	.2816	-1.38	4.22	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.12	5.66	-.4160	-.01	3.90	-.4619	.0982	.0449	-.1130
24	-.22	6.05	-.4520	-.01	4.36	-.5201	.1293	.0451	-.1333
36	-.34	6.45	-.4905	-.05	4.97	-.6070	.0706	.0689	-.1046
48	-.44	6.72	-.5176	-.06	5.15	-.6333	.0685	.0677	-.1006
60	-.49	7.13	-.5537	-.07	5.55	-.6821	.0782	.0398	-.0988
72	-.51	7.19	-.5673	-.08	5.58	-.6845	.1226	-.0121	-.1095

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.39	-1.26

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.68	6.37	.3331	-.38	3.72
2.58	6.24	.3482	-.29	3.57
2.40	6.10	.3986	-.33	3.32
2.29	5.99	.4208	-.35	3.23
2.21	5.84	.4403	-.44	3.06
2.12	5.78	.4141	-.52	3.06

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.67	6.07	.2286	-1.05	3.87	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	4.78	-.4027	-.01	4.07	-.5279	.0021	.0945	-.0714
24	-.16	5.23	-.4420	-.04	4.21	-.5506	-.0020	.1012	-.0767
36	-.21	5.77	-.4919	-.05	4.84	-.6365	.0415	.0397	-.0713
48	-.26	5.89	-.5074	-.06	4.87	-.6419	.0716	.0239	-.0922
60	-.30	6.14	-.5320	-.06	5.09	-.6732	.0721	.0198	-.1013
72	-.34	6.28	-.5537	-.07	5.06	-.6721	.1176	-.0128	-.1281

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.80	-.86

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.80	5.54	.2978	-.47	3.27
.76	5.43	.3114	-.48	3.21
.69	5.28	.3227	-.55	2.98
.66	5.22	.3115	-.54	2.96
.64	5.13	.3160	-.55	2.85
.60	5.04	.2918	-.55	2.86

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.58	5.24	.1737	-1.06	3.25	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	4.47	-.4266	-.02	3.95	-.6127	.0761	-.0295	-.0472
24	-.11	4.67	-.4479	-.02	3.62	-.5624	.1049	-.0612	-.0457
36	-.16	5.01	-.4861	-.04	4.35	-.6760	.0924	-.0648	-.0416
48	-.20	5.41	-.5310	-.04	4.12	-.6411	.0981	-.0305	-.0837
60	-.22	5.85	-.5725	-.04	4.54	-.7122	.0823	-.0513	-.0610
72	-.24	5.95	-.5915	-.02	4.49	-.7065	.1185	-.0632	-.1040

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.58	-.99

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.30	4.74	.2128	-.58	2.57
-.36	4.68	.1988	-.57	2.69
-.38	4.58	.2243	-.58	2.40
-.36	4.44	.2113	-.59	2.49
-.39	4.29	.2336	-.58	2.28
-.38	4.22	.1970	-.57	2.30

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.01	4.89	.0979	-.80	3.03	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.00	3.99	-.4091	-.00	3.69	-.6056	-.0211	-.0337	.0426
24	-.04	4.23	-.4359	.03	3.35	-.5533	.0279	-.0059	-.0161
36	-.06	4.68	-.4872	.02	3.99	-.6632	.0288	-.0182	-.0140
48	-.09	5.03	-.5270	.04	3.81	-.6388	-.0082	.0140	-.0018
60	-.13	5.35	-.5594	.04	4.34	-.7207	.0593	-.0447	-.0337
72	-.17	5.61	-.5915	.05	4.18	-.6951	.0421	-.0405	-.0181

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.08	-.75

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.00	4.46	.1445	-.35	2.41
-.98	4.40	.1242	-.42	2.53
-.98	4.27	.1362	-.41	2.27
-.99	4.15	.1549	-.41	2.33
-1.02	4.05	.1262	-.40	2.10
-1.03	3.94	.1357	-.38	2.18

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.73	4.92	.0222	-.72	2.94	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	4.23	-.4334	-.01	3.47	-.5941	-.0655	-.0279	.0800
24	-.11	4.29	-.4603	.01	3.25	-.5670	-.0785	.0190	.0701
36	-.12	4.80	-.5159	.03	3.84	-.6681	-.0278	-.0505	.0813
48	-.13	5.06	-.5437	.06	3.82	-.6703	-.0433	-.0025	.0639
60	-.14	5.53	-.5914	.07	4.16	-.7272	.0244	-.0262	.0142
72	-.16	5.69	-.6128	.10	4.23	-.7428	.0199	-.0093	.0040

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.81	-.75

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.40	4.43	.0568	-.22	2.36
-1.35	4.36	.0688	-.29	2.42
-1.38	4.20	.0648	-.21	2.18
-1.36	4.12	.0772	-.26	2.18
-1.35	3.96	.0498	-.29	2.02
-1.34	3.89	.0539	-.29	1.97

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.87	5.27	.0941	-.75	2.97	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.06	4.06	-.3836	-.00	3.42	-.5860	-.0280	-.0475	.0564
24	-.10	4.41	-.4284	.01	3.36	-.5770	.0089	-.0241	.0115
36	-.12	4.94	-.4803	.05	3.90	-.6723	-.0062	-.0500	.0436
48	-.14	5.23	-.5150	.09	3.93	-.6836	.0173	-.0653	.0251
60	-.14	5.81	-.5766	.10	4.16	-.7210	.0544	-.1113	.0207
72	-.16	6.11	-.6055	.15	4.24	-.7306	.0889	-.0764	-.0488

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.87	-.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.53	4.86	.1378	-.22	2.40
-1.47	4.76	.1255	-.31	2.43
-1.51	4.61	.1505	-.23	2.20
-1.49	4.51	.1342	-.21	2.17
-1.49	4.29	.1196	-.20	2.05
-1.46	4.19	.0947	-.25	2.03

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.61	5.85	.1895	-.78	3.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	4.41	-.3757	.02	3.80	-.5670	.0329	-.0672	.0183
24	-.05	4.67	-.4059	.04	3.52	-.5888	.1357	-.1427	-.0171
36	-.09	5.35	-.4714	.06	4.00	-.6705	.1258	-.1552	-.0200
48	-.11	5.60	-.5009	.08	4.03	-.6784	.1690	-.2026	-.0331
60	-.13	6.34	-.5675	.08	4.29	-.7224	.1669	-.2077	-.0475
72	-.12	6.59	-.5924	.14	4.36	-.7312	.2017	-.1944	-.1019

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.57	-.85

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.39	5.42	.2384	-.27	2.46
-1.37	5.34	.2088	-.24	2.41
-1.37	5.16	.2188	-.23	2.21
-1.37	5.06	.1940	-.20	2.18
-1.38	4.81	.1864	-.22	2.05
-1.34	4.71	.1587	-.24	2.04

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.18	6.71	.1775	-.73	2.95	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.07	4.38	-.3288	-.01	3.43	-.5770	.0065	-.0451	.0180
24	-.09	4.78	-.3705	.01	3.46	-.5900	.1668	-.1204	-.0591
36	-.13	5.60	-.4431	.02	3.99	-.6796	.1111	-.1108	-.0411
48	-.15	5.85	-.4683	.05	4.03	-.6816	.1780	-.1630	-.0680
60	-.21	6.57	-.5262	.07	4.34	-.7394	.1878	-.1871	-.0775
72	-.22	6.92	-.5542	.10	4.25	-.7234	.2181	-.1930	-.1083

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.20	-.74

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.13	6.34	.2263	-.30	2.42
-1.08	6.23	.1793	-.32	2.40
-1.09	6.02	.2038	-.31	2.18
-1.10	5.93	.1728	-.29	2.17
-1.13	5.70	.1658	-.28	1.99
-1.13	5.59	.1386	-.28	2.05

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - APRIL
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.36	7.23	.0995	-.77	3.15	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	4.25	-.2989	-.00	3.51	-.5600	-.1257	.0701	.0356
24	-.12	4.72	-.3388	-.01	3.60	-.5830	.0156	.0020	-.0219
36	-.19	5.59	-.4077	.01	4.13	-.6701	-.0232	.0266	-.0086
48	-.23	5.97	-.4397	.02	4.22	-.6856	.0767	-.0431	-.0477
60	-.29	6.74	-.4969	.07	4.47	-.7311	.0388	-.0222	-.0290
72	-.32	7.10	-.5252	.08	4.38	-.7154	.1163	-.0750	-.0654

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.20	-.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.78	6.90	.1510	-.38	2.61
-.77	6.80	.1194	-.38	2.56
-.80	6.60	.1451	-.37	2.34
-.82	6.49	.1085	-.37	2.30
-.86	6.27	.1374	-.33	2.15
-.88	6.15	.0960	-.33	2.20

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4	1/56 - 12/70	0	90.0	-1.08	3.18	-.1579	.47	3.14	900
4	1/56 - 12/70	1	90.0	.96	6.56	-.0311	1.20	5.26	900
4	1/56 - 12/70	2	90.0	3.65	7.14	.0651	.16	5.17	900
4	1/56 - 12/70	3	90.0	6.04	8.04	.0509	-.82	5.97	900
4	1/56 - 12/70	4	90.0	8.60	8.74	.0932	-1.40	6.56	900
4	1/56 - 12/70	5	90.0	11.13	9.69	.1393	-1.70	6.83	900
4	1/56 - 12/70	6	90.0	13.90	10.63	.1611	-1.93	7.29	900
4	1/56 - 12/70	7	90.0	16.79	11.65	.1917	-2.27	8.02	900
4	1/56 - 12/70	8	90.0	19.71	12.80	.1907	-2.69	8.76	900
4	1/56 - 12/70	9	90.0	22.54	14.47	.2126	-3.06	10.00	900
4	1/56 - 12/70	10	90.0	25.57	15.70	.2638	-3.69	11.49	900
4	1/56 - 12/70	11	90.0	28.80	16.91	.2498	-4.35	12.93	900
4	1/56 - 12/70	12	90.0	31.91	17.34	.2684	-4.73	13.94	900
4	1/56 - 12/70	13	90.0	33.91	16.46	.3013	-4.76	13.14	900
4	1/56 - 12/70	14	90.0	32.07	14.38	.3158	-4.34	11.44	900
4	1/56 - 12/70	15	90.0	28.08	12.04	.2965	-3.47	9.14	900
4	1/56 - 12/70	16	90.0	23.03	10.26	.2568	-3.06	7.96	900
4	1/56 - 12/70	17	90.0	17.30	9.19	.2746	-2.45	6.71	900
4	1/56 - 12/70	18	90.0	10.91	7.85	.2764	-2.03	5.23	900
4	1/56 - 12/70	19	90.0	5.31	7.02	.2816	-1.38	4.22	900
4	1/56 - 12/70	20	90.0	1.67	6.07	.2286	-1.05	3.87	900
4	1/56 - 12/70	21	90.0	-.59	5.24	.1737	-1.06	3.25	900
4	1/56 - 12/70	22	90.0	-2.01	4.89	.0979	-.80	3.03	900
4	1/56 - 12/70	23	90.0	-2.73	4.92	.0222	-.72	2.94	900
4	1/56 - 12/70	24	90.0	-2.87	5.27	.0941	-.75	2.97	900
4	1/56 - 12/70	25	90.0	-2.61	5.85	.1895	-.78	3.00	900
4	1/56 - 12/70	26	90.0	-2.18	6.71	.1775	-.73	2.97	900
4	1/56 - 12/70	27	90.0	-1.36	7.23	.0995	-.77	3.15	900

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.97	5.28	.1271	.94	4.25	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.06	3.75	-.3582	.01	3.64	-.4287	.0857	.1641	-.1897
24	-.09	4.75	-.4517	-.00	4.18	-.4939	.0727	.1756	-.2163
36	-.16	6.00	-.5651	-.03	4.98	-.5892	.1072	.1002	-.2075
48	-.18	6.57	-.6242	-.04	5.20	-.6146	.0928	.0484	-.1531
60	-.21	7.09	-.6760	-.05	5.42	-.6462	.1400	-.0224	-.1592
72	-.21	7.20	-.6891	-.04	5.53	-.6547	.1475	-.0574	-.1360

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.71	.90

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.86	4.86	.1420	.32	3.75
-.87	4.61	.1535	.35	3.59
-.84	4.29	.1473	.39	3.37
-.79	4.10	.1615	.42	3.33
-.78	3.88	.1249	.43	3.23
-.75	3.82	.1187	.45	3.21

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.44	5.68	.2731	-.17	4.49	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.06	3.85	-.3391	.00	3.67	-.4142	.0996	.1107	-.1561
24	-.09	4.74	-.4203	.01	4.28	-.4841	.1596	.0781	-.2032
36	-.15	5.97	-.5296	-.00	5.10	-.5778	.1789	.0162	-.2081
48	-.16	6.44	-.5794	.01	5.39	-.6102	.2075	-.0329	-.2076
60	-.19	7.04	-.6360	.01	5.76	-.6511	.2350	-.0842	-.2155
72	-.22	7.29	-.6635	.04	5.92	-.6662	.2719	-.1273	-.2294

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.56	-.30

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.20	5.30	.3084	.10	4.03
.19	5.09	.3064	.09	3.86
.14	4.77	.3149	.06	3.62
.12	4.60	.3122	.05	3.53
.09	4.37	.3019	.03	3.39
.07	4.24	.2797	.04	3.34

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.65	6.00	.2818	-.31	4.77	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	3.76	-.3194	.04	3.56	-.3859	.0406	.1436	-.1450
24	-.08	4.82	-.4088	.06	4.47	-.4864	.1702	.0754	-.2069
36	-.12	5.89	-.4992	.07	5.27	-.5715	.2096	.0179	-.2272
48	-.13	6.52	-.5561	.09	5.72	-.6171	.2388	-.0452	-.2220
60	-.17	7.06	-.6038	.11	6.10	-.6542	.2388	-.0790	-.2163
72	-.21	7.43	-.6427	.13	6.26	-.6702	.2783	-.1220	-.2382

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.61	-.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.93	5.63	.3236	.28	4.34
.94	5.41	.3125	.25	4.10
.89	5.14	.3131	.18	3.86
.85	4.95	.3094	.12	3.72
.81	4.76	.3108	.09	3.59
.77	4.58	.2879	.08	3.53

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.91	6.50	.2669	-.40	5.27	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	4.05	-.3221	.07	3.96	-.3913	.1401	.1180	-.1881
24	-.10	5.31	-.4250	.10	5.01	-.4966	.2110	.0712	-.2465
36	-.13	6.35	-.5044	.11	5.77	-.5711	.2589	.0210	-.2833
48	-.15	7.09	-.5608	.15	6.28	-.6200	.2524	-.0236	-.2639
60	-.20	7.59	-.6040	.13	6.73	-.6616	.2504	-.0548	-.2557
72	-.29	7.95	-.6434	.14	6.96	-.6837	.2742	-.0875	-.2705

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.76	-.52

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.70	6.08	.2903	.57	4.76
1.68	5.79	.2818	.47	4.47
1.66	5.52	.2689	.39	4.22
1.59	5.32	.2744	.27	4.07
1.52	5.13	.2761	.19	3.90
1.44	4.93	.2616	.17	3.80

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.42	6.86	.2637	-.54	5.70	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.06	4.12	-.3154	.05	4.10	-.3719	.1251	.0842	-.1548
24	-.13	5.35	-.4066	.09	5.18	-.4705	.2194	.0407	-.2214
36	-.17	6.44	-.4859	.10	6.15	-.5613	.2655	-.0106	-.2524
48	-.22	7.27	-.5470	.13	6.65	-.6080	.2813	-.0661	-.2504
60	-.32	7.88	-.6034	.11	7.06	-.6451	.2910	-.1012	-.2536
72	-.45	8.34	-.6447	.11	7.36	-.6718	.3145	-.1338	-.2726

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.21	-.88

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.46	6.46	.2837	.75	5.24
2.50	6.20	.2719	.70	4.96
2.47	5.93	.2618	.59	4.65
2.37	5.70	.2537	.41	4.48
2.22	5.44	.2496	.31	4.33
2.12	5.22	.2298	.27	4.20

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.08	7.47	.2558	-.64	6.52	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	4.56	-.3253	.08	4.44	-.3531	.1115	.0561	-.1233
24	-.18	5.79	-.4096	.12	5.65	-.4523	.2485	-.0022	-.1999
36	-.26	6.88	-.4871	.13	6.73	-.5419	.3080	-.0689	-.2253
48	-.33	7.65	-.5395	.17	7.43	-.5968	.3431	-.1146	-.2526
60	-.43	8.33	-.5768	.17	7.99	-.6409	.3497	-.1447	-.2592
72	-.55	8.84	-.6394	.17	8.36	-.6681	.3833	-.1815	-.2881

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.67	-.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.21	7.03	.2764	.63	6.07
3.29	6.77	.2587	.65	5.77
3.18	6.49	.2465	.49	5.44
3.13	6.26	.2261	.43	5.19
2.96	5.98	.2217	.33	4.97
2.85	5.73	.1928	.30	4.82

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.76	8.17	.2787	-.60	7.29	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.11	4.89	-.3244	.07	5.09	-.3534	.1424	.0263	-.1126
24	-.23	6.32	-.4164	.11	6.56	-.4586	.2220	-.0248	-.1538
36	-.28	7.48	-.4909	.13	7.73	-.5430	.2929	-.0960	-.1885
48	-.37	8.26	-.5419	.19	8.46	-.5949	.3268	-.1342	-.2164
60	-.51	8.94	-.5915	.21	9.11	-.6396	.3514	-.1728	-.2332
72	-.64	9.47	-.6324	.21	9.41	-.6584	.3875	-.2024	-.2689

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.27	-.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.97	7.71	.2990	.72	6.80
3.93	7.41	.2978	.59	6.46
3.87	7.11	.2833	.41	6.11
3.81	6.86	.2702	.39	5.84
3.65	6.59	.2584	.32	5.59
3.54	6.33	.2313	.32	5.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9.43	9.09	.2551	-.44	8.27	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.12	5.38	-.3170	.06	5.83	-.3586	.1042	.0408	-.0922
24	-.23	6.89	-.4026	.12	7.38	-.4563	.1818	.0068	-.1391
36	-.28	8.20	-.4743	.15	8.54	-.5314	.2406	-.0524	-.1666
48	-.36	9.11	-.5245	.19	9.34	-.5828	.2967	-.1017	-.2023
60	-.50	10.00	-.5819	.22	9.98	-.6195	.3082	-.1347	-.2109
72	-.65	10.56	-.6203	.21	10.37	-.6403	.3417	-.1687	-.2385

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.82	-.62

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.81	8.60	.2798	1.00	7.69
4.84	8.30	.2805	.96	7.32
4.83	7.99	.2717	.71	6.98
4.81	7.73	.2522	.64	6.69
4.62	7.39	.2462	.48	6.47
4.48	7.12	.2214	.42	6.34

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.18	10.03	.2548	-.51	9.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.12	6.13	-.3241	.08	6.55	-.3425	.1194	.0383	-.1048
24	-.23	7.82	-.4092	.16	8.48	-.4429	.1940	.0007	-.1470
36	-.30	9.42	-.4877	.23	9.94	-.5250	.2323	-.0563	-.1592
48	-.42	10.45	-.5403	.27	10.86	-.5746	.2630	-.0873	-.1819
60	-.54	11.43	-.5963	.31	11.61	-.6124	.2971	-.1163	-.2181
72	-.70	11.95	-.6276	.3:	11.97	-.6297	.3252	-.1503	-.2345

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
10.43	-.80

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.81	9.46	.2761	1.28	9.05
5.85	9.12	.2759	1.18	8.63
5.79	8.74	.2738	.79	8.20
5.71	8.43	.2684	.74	7.89
5.61	8.04	.2526	.74	7.62
5.46	7.80	.2335	.62	7.49

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.24	11.44	.2736	-.53	11.11	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.16	7.42	-.3400	.11	7.44	-.3385	.1536	.0177	-.1066
24	-.27	9.27	-.4208	.21	9.52	-.4317	.2388	-.0151	-.1611
36	-.35	10.97	-.4962	.33	11.18	-.5100	.2497	-.0533	-.1689
48	-.51	12.08	-.5447	.39	12.31	-.5602	.2820	-.0904	-.1857
60	-.62	13.26	-.6021	.48	13.25	-.6001	.2994	-.1089	-.2125
72	-.79	13.80	-.6308	.51	13.58	-.6139	.3185	-.1294	-.2274

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.26	-.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.98	10.74	.2958	1.35	10.43
7.06	10.35	.2951	1.48	9.97
6.93	9.92	.3006	1.15	9.52
6.81	9.59	.2975	1.03	9.17
6.71	9.13	.2958	1.05	8.85
6.55	8.87	.2872	1.00	8.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.79	12.68	.3133	-.66	12.65	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.17	7.68	-.3200	.17	8.00	-.3202	.1241	-.0103	-.0549
24	-.30	10.19	-.4172	.28	10.62	-.4259	.2138	-.0338	-.1214
36	-.43	12.00	-.4854	.40	12.64	-.5053	.2432	-.0674	-.1421
48	-.57	13.33	-.5[illegible]	.46	13.85	-.5533	.2852	-.0960	-.1755
60	-.70	14.50	-.5836	.57	14.72	-.5875	.3035	-.1091	-.2028
72	-.88	15.35	-.6195	.65	15.34	-.6102	.3307	-.1255	-.2357

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.50	-1.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.12	12.01	.3402	.79	11.98
8.30	11.52	.3477	1.24	11.42
8.27	11.08	.3563	1.12	10.89
8.28	10.72	.3546	1.20	10.51
8.19	10.29	.3577	1.31	10.20
8.12	9.95	.3494	1.43	9.97

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.45	13.93	.3365	-1.11	13.86	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.19	8.00	-.2974	.19	8.40	-.3050	.1329	-.0372	-.0344
24	-.36	10.67	-.3917	.31	11.20	-.4104	.2027	-.0473	-.0932
36	-.48	12.56	-.4591	.43	13.18	-.4829	.2389	-.0718	-.1210
48	-.60	14.04	-.5078	.51	14.49	-.5297	.2853	-.0962	-.1592
60	-.71	15.36	-.5559	.67	15.52	-.5637	.3215	-.1118	-.1989
72	-.90	16.35	-.5951	.75	16.20	-.5863	.3486	-.1224	-.2375

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.89	-1.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.56	13.30	.3597	-.08	13.20
9.72	12.82	.3725	.75	12.63
9.68	12.38	.3836	.86	12.12
9.74	12.00	.3839	1.06	11.73
9.73	11.58	.3841	1.34	11.40
9.67	11.19	.3790	1.57	11.16

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.47	14.07	.3592	-2.26	13.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.16	7.37	-.2672	.22	7.56	-.2802	.1262	-.0408	-.0184
24	-.33	10.23	-.3683	.33	10.37	-.3880	.2050	-.0583	-.0784
36	-.47	12.12	-.4352	.42	12.48	-.4626	.2489	-.0776	-.1164
48	-.64	13.72	-.4884	.52	14.04	-.5196	.2926	-.0995	-.1588
60	-.70	15.09	-.5380	.66	15.22	-.5575	.3278	-.1107	-.2038
72	-.85	16.08	-.5763	.75	15.97	-.5824	.3621	-.1238	-.2485

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.98	-2.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.55	13.55	.3813	-.92	13.12
10.72	13.08	.3930	-.05	12.60
10.72	12.66	.4033	.30	12.11
10.80	12.27	.4062	.61	11.66
10.88	11.85	.4074	1.01	11.30
10.90	11.48	.3995	1.32	11.04

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.05	12.37	.3922	-2.79	11.84	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.16	6.58	-.2718	.16	6.62	-.2912	.1109	.0029	-.0607
24	-.34	8.71	-.3573	.26	8.95	-.3937	.2268	-.0460	-.1206
36	-.51	10.66	-.4345	.34	11.01	-.4780	.2865	-.0748	-.1703
48	-.71	12.10	-.4969	.41	12.44	-.5365	.3576	-.1134	-.2283
60	-.81	13.36	-.5500	.47	13.38	-.5725	.3912	-.1342	-.2707
72	-1.00	14.23	-.5897	.52	14.02	-.5976	.4216	-.1468	-.3163

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.78	-3.15

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.68	11.90	.4176	.17	11.32
10.79	11.55	.4200	.22	10.87
10.84	11.13	.4277	.53	10.37
10.76	10.72	.4223	.85	9.91
10.75	10.31	.4193	1.02	9.64
10.76	9.95	.4100	1.33	9.39

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
16.85	10.07	.4204	-3.20	9.42	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.15	5.34	-.2739	.06	5.46	-.2923	.1221	.0520	-.1138
24	-.31	7.12	-.3606	.14	7.20	-.3862	.2576	.0055	-.1872
36	-.47	8.54	-.4332	.19	8.85	-.4738	.3121	-.0356	-.2272
48	-.63	9.66	-.4896	.26	9.99	-.5342	.3701	-.0827	-.2697
60	-.78	10.65	-.5414	.29	10.83	-.5789	.3949	-.1156	-.2963
72	-.96	11.31	-.5806	.33	11.36	-.6061	.4199	-.1397	-.3256

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
15.87	-3.55

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.42	9.65	.4496	1.20	8.97
9.72	9.34	.4511	1.22	8.63
9.56	9.03	.4576	1.09	8.22
9.48	8.73	.4530	1.04	7.88
9.29	8.42	.4537	.88	7.60
9.12	8.15	.4485	.89	7.40

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
12.60	8.24	-.3767	-3.11	7.39	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.14	4.70	-.2920	.07	4.35	-.3067	.0439	.1146	-.1345
24	-.27	5.79	-.3575	.11	5.70	-.3992	.1641	.0900	-.1945
36	-.41	6.95	-.4285	.16	6.94	-.4821	.2257	.0501	-.2325
48	-.55	7.81	-.4834	.17	7.86	-.5434	.2868	-.0116	-.2575
60	-.74	8.40	-.5241	.21	8.61	-.5940	.3140	-.0601	-.2606
72	-.92	8.77	-.5546	.24	9.03	-.6257	.3543	-.0980	-.2815

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.89	-3.47

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.38	7.82	.4160	1.19	6.97
7.53	7.61	.4208	1.34	6.67
7.44	7.36	.4262	1.09	6.36
7.24	7.14	.4208	.76	6.10
6.90	6.97	.4232	.46	5.86
6.67	6.82	.4166	.46	5.68

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.80	6.74	.3549	-2.88	5.90	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.13	4.30	-.3261	.03	4.27	-.3662	.0462	.1186	-.1356
24	-.25	4.76	-.3658	.03	4.89	-.4208	.0437	.1378	-.1513
36	-.38	5.83	-.4467	.07	5.93	-.5110	.1298	.0870	-.1906
48	-.52	6.30	-.4839	.07	6.57	-.5634	.1940	.0168	-.1990
60	-.66	6.84	-.5258	.10	7.11	-.6112	.2731	-.0454	-.2357
72	-.81	7.18	-.5602	.11	7.46	-.6440	.3055	-.0748	-.2573

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.42	-3.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.60	6.32	.4039	.13	5.43
4.47	6.21	.4223	.22	5.27
4.42	5.96	.4322	.02	4.99
4.23	5.85	.4248	-.24	4.81
4.13	5.70	.4111	-.25	4.61
3.97	5.55	.4089	-.24	4.45

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.34	5.66	.2733	-2.35	4.57	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	4.24	-.3899	.01	3.85	-.4297	-.0387	.1054	-.0771
24	-.23	4.20	-.3934	.03	3.93	-.4364	-.0128	.1481	-.1359
36	-.31	5.15	-.4766	.04	4.90	-.5409	.0354	.1148	-.1440
48	-.41	5.43	-.5015	.06	5.12	-.5622	.1319	.0747	-.2079
60	-.52	5.99	-.5502	.10	5.61	-.6167	.1329	.0485	-.2010
72	-.69	6.21	-.5787	.11	5.76	-.6347	.2256	-.0085	-.2522

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.14	-2.50

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.98	5.19	.3341	-.77	4.10
2.06	5.14	.3349	-.55	4.06
1.92	4.93	.3580	-.64	3.79
1.96	4.83	.3289	-.56	3.71
1.84	4.67	.3418	-.63	3.54
1.75	4.56	.3055	-.56	3.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.23	4.69	.1905	-1.61	3.56	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.09	3.68	-.4062	.00	3.94	-.5557	-.0767	.0935	-.0189
24	-.18	3.50	-.3935	.01	3.44	-.4810	-.0591	.1675	-.0950
36	-.28	4.24	-.4739	.02	4.35	-.6055	-.0116	.1270	-.0928
48	-.37	4.41	-.4971	.02	4.21	-.5863	.0430	.1060	-.1390
60	-.47	4.95	-.5522	.03	4.68	-.6526	.0684	.0584	-.1265
72	-.63	4.98	-.5719	.06	4.64	-.6521	.1614	.0335	-.1980

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.28	-1.60

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.04	4.28	.2653	-.83	2.95
.08	4.28	.2541	-.84	3.08
-.06	4.11	.2778	-.82	2.80
-.07	4.04	.2550	-.79	2.84
-.19	3.89	.2638	-.78	2.67
-.23	3.82	.2282	-.72	2.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.64	4.28	.1699	-1.22	2.90	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	3.56	-.4297	.01	3.77	-.6506	.1221	-.0642	-.0656
24	-.17	3.32	-.4059	.02	3.07	-.5249	.1061	.0255	-.1037
36	-.25	3.98	-.4820	.02	4.02	-.6908	.1402	-.0332	-.1162
48	-.36	4.08	-.4957	.02	3.58	-.6136	.1550	.0019	-.1519
60	-.48	4.54	-.5484	.02	4.21	-.7292	.1835	-.0601	-.1561
72	-.60	4.62	-.5606	.03	3.96	-.6852	.1764	-.0468	-.1580

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.58	-1.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.33	3.87	.1951	-.63	2.20
-1.29	3.91	.1914	-.76	2.46
-1.39	3.75	.1903	-.69	2.09
-1.40	3.71	.1824	-.73	2.27
-1.51	3.57	.1687	-.68	1.97
-1.55	3.54	.1710	-.67	2.10

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-4.49	4.11	.0413	-.75	2.59	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	3.59	-.4510	-.03	3.52	-.6782	-.0384	-.0260	.0409
24	-.20	3.29	-.4122	-.01	3.06	-.5816	-.0194	.0546	-.0298
36	-.28	4.05	-.5048	-.01	3.73	-.7154	-.0279	-.0005	.0193
48	-.40	3.90	-.4818	-.00	3.49	-.6716	-.0399	.0530	-.0082
60	-.49	4.40	-.5455	-.00	3.83	-.7425	-.0065	.0051	-.0069
72	-.63	4.38	-.5444	.01	3.64	-.7127	.0043	.0142	-.0228

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-4.41	-.74

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.29	3.66	.0707	-.24	1.90
-2.29	3.74	.0567	-.54	2.10
-2.39	3.55	.0743	-.33	1.81
-2.43	3.60	.0748	-.45	1.91
-2.49	3.44	.0847	-.38	1.73
-2.55	3.44	.0586	-.41	1.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-5.71	4.20	-.0480	-.65	2.66	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.12	3.51	-.4246	-.03	3.63	-.6841	-.1185	.0431	.0691
24	-.22	3.33	-.4042	-.00	3.14	-.5842	-.0549	.0513	-.0054
36	-.32	3.96	-.4819	-.05	3.90	-.7258	-.1126	.0524	.0650
48	-.43	4.06	-.4928	-.04	3.70	-.6880	-.0941	.1093	.0056
60	-.51	4.39	-.5325	-.07	4.01	-.7528	-.1148	.1118	.0326
72	-.62	4.42	-.5375	-.03	3.74	-.7003	-.0869	.1056	-.0004

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-5.62	-.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.94	3.81	-.0254	-.16	1.94
-2.92	3.84	-.0584	-.39	2.16
-3.02	3.68	-.0247	-.23	1.83
-3.01	3.65	-.0349	-.48	1.93
-3.07	3.56	-.0177	-.42	1.75
-3.10	3.54	-.0401	-.46	1.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.54	4.22	-.0367	-.48	2.65	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.11	3.31	-.3957	-.02	3.63	-.6811	-.0713	-.0144	.0652
24	-.20	3.27	-.3975	.00	3.16	-.5896	.0096	-.0320	.0075
36	-.32	3.78	-.4599	-.03	4.03	-.7508	-.0455	-.0122	.0427
48	-.42	3.82	-.4660	-.03	3.66	-.6781	.0056	-.0350	.0028
60	-.55	4.17	-.5144	-.05	4.13	-.7655	-.0323	.0098	.0112
72	-.63	4.33	-.5312	-.01	3.71	-.6837	-.0221	.0154	-.0108

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.44	-.48

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.40	3.87	-.0254	.07	1.93
-3.35	3.87	-.0576	-.11	2.14
-3.42	3.74	-.0442	-.05	1.75
-3.45	3.73	-.0759	-.12	1.94
-3.48	3.61	-.0648	-.21	1.70
-3.52	3.57	-.0710	-.25	1.93

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-7.05	4.56	.0248	-.48	2.77	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.11	3.50	-.3999	-.01	3.79	-.6848	-.0071	-.0526	.0313
24	-.21	3.43	-.3995	-.01	3.28	-.5933	.0046	-.0648	.0244
36	-.33	4.05	-.4750	-.01	4.08	-.7349	.0016	-.0688	.0253
48	-.42	4.21	-.4940	-.02	3.77	-.6824	.0657	-.1125	-.0043
60	-.54	4.59	-.5375	-.03	4.30	-.7755	.0557	-.1088	-.0047
72	-.61	4.58	-.5424	-.04	3.88	-.7062	.0615	-.0785	-.0337

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.84	-.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.56	4.18	.0349	.05	2.01
-3.54	4.18	.0197	.07	2.22
-3.58	4.01	.0191	.04	1.87
-3.62	3.96	-.0185	.02	2.02
-3.69	3.84	-.0269	-.02	1.74
-3.69	3.83	-.0303	-.14	1.96

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-7.20	5.02	.0060	.63	2.82	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.13	3.68	-.3790	.01	3.57	-.6360	-.0330	-.0355	.0421
24	-.23	3.68	-.3873	-.00	3.44	-.6100	-.0229	-.0602	.0426
36	-.34	4.32	-.4563	.01	4.05	-.7148	.0034	-.0904	.0386
48	-.44	4.55	-.4864	.01	3.93	-.6932	.0505	-.0870	.0018
60	-.54	4.86	-.5216	.00	4.27	-.7542	.0401	-.0995	.0190
72	-.66	5.04	-.5462	-.02	3.97	-.7072	.0443	-.0696	-.0037

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-7.11	-.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.62	4.64	.0160	-.02	2.17
-3.60	4.62	.0046	.06	2.22
-3.63	4.46	-.0106	.07	1.96
-3.63	4.38	-.0288	-.11	2.03
-3.69	4.28	-.0286	-.07	1.84
-3.70	4.20	-.0298	-.20	1.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-7.18	5.44	.0224	-.62	2.87	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.13	3.52	-.3307	.04	3.37	-.5857	-.0741	-.0197	.0595
24	-.25	3.81	-.3630	.03	3.56	-.6170	-.0384	-.0431	.0507
36	-.36	4.34	-.4159	.04	4.02	-.7038	-.0167	-.0102	.0584
48	-.46	4.74	-.4566	.01	4.12	-.7261	-.0034	-.0766	.0473
60	-.56	5.02	-.4867	.02	4.26	-.7487	.0201	-.0701	.0198
72	-.69	5.32	-.5223	.01	3.99	-.7086	.0139	-.0303	.0023

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-7.15	-.58

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-3.65	5.13	.0479	.06	2.32
24	-3.65	5.06	.0404	.03	2.25
36	-3.69	4.94	.0395	.11	2.02
48	-3.72	4.83	.0340	.00	1.96
60	-3.72	4.75	.0180	-.11	1.90
72	-3.74	4.64	.0203	-.24	2.03

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - MAY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.96	5.95	.0042	-.64	2.95	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	3.54	-.3068	.02	3.60	-.6099	-.0797	-.0291	.0625
24	-.22	3.93	-.3459	.03	3.60	-.6112	-.0195	-.0628	.0523
36	-.34	4.59	-.4041	.03	4.20	-.7141	-.0039	-.1034	.0683
48	-.44	4.90	-.4322	.01	4.15	-.7070	.0378	-.1067	.0405
60	-.54	5.35	-.4731	-.00	4.28	-.7324	.0617	-.0977	.0129
72	-.66	5.67	-.4998	-.01	4.20	-.7230	.0591	-.0862	.0056

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.87	-.64

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.54	5.66	.0249	.13	2.32
-3.53	5.58	.0141	.07	2.32
-3.60	5.43	.0160	.14	2.04
-3.61	5.36	-.0030	-.01	2.07
-3.64	5.24	-.0190	-.14	2.00
-3.72	5.15	-.0228	-.18	2.03

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5	1/56 - 12/70	0	90.0	-1.67	2.89	-.0657	.53	2.55	930
5	1/56 - 12/70	1	90.0	-.97	5.28	.1271	.94	4.25	930
5	1/56 - 12/70	2	90.0	.44	5.68	.2731	-.17	4.49	930
5	1/56 - 12/70	3	90.0	1.65	6.00	.2818	-.31	4.77	930
5	1/56 - 12/70	4	90.0	2.91	6.50	.2669	-.40	5.27	930
5	1/56 - 12/70	5	90.0	4.42	6.86	.2637	-.54	5.70	930
5	1/56 - 12/70	6	90.0	6.06	7.47	.2556	-.64	6.52	930
5	1/56 - 12/70	7	90.0	7.76	8.17	.2787	-.60	7.29	930
5	1/56 - 12/70	8	90.0	9.43	9.09	.2551	-.44	8.27	930
5	1/56 - 12/70	9	90.0	11.18	10.03	.2548	-.51	9.67	930
5	1/56 - 12/70	10	90.0	13.24	11.44	.2736	-.53	11.11	930
5	1/56 - 12/70	11	90.0	15.79	12.68	.3133	-.66	12.65	930
5	1/56 - 12/70	12	90.0	18.45	13.93	.3365	-1.11	13.86	930
5	1/56 - 12/70	13	90.0	20.47	14.07	.3592	-2.26	13.67	930
5	1/56 - 12/70	14	90.0	20.05	12.37	.3922	-2.79	11.84	930
5	1/56 - 12/70	15	90.0	16.85	10.07	.4204	-3.20	9.42	930
5	1/56 - 12/70	16	90.0	12.60	8.24	.3767	-3.11	7.39	930
5	1/56 - 12/70	17	90.0	7.80	6.74	.3549	-2.88	5.90	930
5	1/56 - 12/70	18	90.0	3.34	5.66	.2733	-2.35	4.57	930
5	1/56 - 12/70	19	90.0	-.23	4.89	.1905	-1.61	3.56	930
5	1/56 - 12/70	20	90.0	-2.64	4.28	.1699	-1.22	2.90	930
5	1/56 - 12/70	21	90.0	-4.49	4.11	.0413	-.75	2.59	930
5	1/56 - 12/70	22	90.0	-5.71	4.20	-.0480	-.65	2.66	930
5	1/56 - 12/70	23	90.0	-6.54	4.22	-.0367	-.48	2.65	930
5	1/56 - 12/70	24	90.0	-7.05	4.56	.0248	-.48	2.77	930
5	1/56 - 12/70	25	90.0	-7.20	5.02	.0060	-.63	2.82	930
5	1/56 - 12/70	26	90.0	-7.18	5.44	.0224	-.62	2.87	930
5	1/56 - 12/70	27	90.0	-6.96	5.95	.0042	-.64	2.95	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.08	2.68	.0014	.93	2.38	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	3.32	-.6267	-.00	2.65	-.5577	-.1768	.1392	.0614
24	.04	2.69	-.5088	-.01	2.55	-.5366	-.0068	.0959	-.0910
36	.05	3.72	-.6995	.02	3.00	-.6397	-.1739	.1757	.0314
48	.09	3.11	-.5868	.04	3.03	-.6522	-.0474	.0860	-.0421
60	.11	3.97	-.7490	.06	3.21	-.6927	-.1189	.1169	.0302
72	.13	3.24	-.6172	.08	3.23	-.6981	-.0190	.0474	-.0351

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.10	.99

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.56	2.08	.0953	.41	1.98
-.60	2.29	-.0006	.34	2.00
-.57	1.90	.1245	.40	1.83
-.53	2.16	.0106	.40	1.80
-.51	1.77	.1019	.43	1.72
-.48	2.10	-.0037	.43	1.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.12	5.13	.19	1.65	3.86	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	3.96	-.3886	.02	3.20	-.4096	.1847	.0779	-.2218
24	.07	4.53	-.4446	.03	3.99	-.5157	.1375	.1275	-.2424
36	.12	5.75	-.5701	.08	4.77	-.6211	.1477	.0584	-.2345
48	.17	6.05	-.5988	.09	5.07	-.6614	.1099	.0449	-.1922
60	.21	6.67	-.6605	.10	5.33	-.6962	.1589	-.0371	-.1982
72	.26	6.66	-.6616	.10	5.31	-.6976	.1320	-.0326	-.1687

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.22	1.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.42	4.66	.1917	.72	3.47
-.38	4.50	.2057	.73	3.21
-.22	4.14	.2073	.74	2.97
-.13	4.06	.2284	.76	2.66
-.04	3.82	.1911	.76	2.76
.00	3.82	.2127	.76	2.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.27	5.04	.1908	.92	4.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	3.64	-.3691	.03	3.51	-.4364	.0832	.1121	-.1600
24	.02	4.39	-.4421	.04	4.12	-.5109	.1580	.0902	-.2205
36	.05	5.38	-.5421	.06	5.03	-.6277	.1192	.0595	-.1860
48	.04	5.84	-.5864	.07	5.24	-.6540	.1460	.0196	-.1970
60	.06	6.25	-.6300	.06	5.56	-.6958	.1378	-.0035	-.1819
72	.08	6.50	-.6531	.04	5.45	-.6861	.1529	-.0220	-.1927

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.38	1.17

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.38	4.64	.2133	.57	3.55
.40	4.45	.2010	.55	3.37
.47	4.19	.2274	.49	3.06
.49	4.04	.2127	.47	2.99
.51	3.88	.2209	.44	2.85
.52	3.79	.2054	.41	2.89

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.87	5.05	.1333	.76	4.11	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.01	3.41	-.3381	.02	3.72	-.4497	.0329	.1399	-.1249
24	-.02	4.31	-.4280	.01	4.26	-.5141	.1179	.1144	-.1897
36	-.03	5.24	-.5199	.02	5.20	-.6275	.0774	.0923	-.1514
48	-.04	5.71	-.5632	.02	5.44	-.6549	.0825	.0602	-.1433
60	-.04	6.21	-.6155	.01	5.79	-.6980	.0822	.0395	-.1340
72	-.04	6.51	-.6434	-.03	5.70	-.6845	.0962	.0230	-.1472

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.96	.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.74	4.71	.1568	.66	3.62
.75	4.51	.1437	.61	3.45
.79	4.27	.1700	.51	3.15
.80	4.14	.1678	.45	3.07
.81	3.95	.1775	.41	2.92
.81	3.84	.1616	.38	2.97

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.27	5.26	.1406	.59	4.25	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	3.41	-.3167	-.02	3.67	-.4251	.0375	.1339	-.1147
24	-.08	4.28	-.3955	-.02	4.32	-.5023	.1329	.1198	-.1923
36	-.12	5.26	-.4870	-.03	5.24	-.6113	.0862	.0991	-.1552
48	-.14	5.76	-.5354	-.03	5.50	-.6404	.0933	.0700	-.1509
60	-.17	6.33	-.5907	-.02	5.84	-.6786	.0818	.0436	-.1267
72	-.15	6.70	-.6266	-.05	5.83	-.6737	.1069	.0174	-.1428

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.38	.76

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.98	4.96	.1649	.65	3.80
.99	4.78	.1492	.65	3.59
.98	4.56	.1758	.50	3.30
.98	4.41	.1768	.44	3.22
.97	4.23	.1927	.37	3.10
.98	4.08	.1753	.33	3.12

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.56	5.57	.1087	.26	4.41	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	3.65	-.3262	-.01	3.89	-.4399	-.0610	.1694	-.0854
24	-.08	4.62	-.4089	-.00	4.37	-.4940	.0400	.1440	-.1507
36	-.13	5.59	-.4949	-.00	5.28	-.6006	.0291	.1277	-.1310
48	-.17	6.17	-.5448	.01	5.53	-.6245	.0458	.0911	-.1271
60	-.19	6.65	-.5882	.02	5.86	-.6627	.0351	.0841	-.1129
72	-.19	6.93	-.6153	.01	5.88	-.6626	.0496	.0601	-.1135

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.63	.42

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.14	5.23	.1423	.52	3.91
1.17	5.03	.1302	.48	3.77
1.16	4.80	.1497	.37	3.47
1.15	4.64	.1463	.30	3.40
1.14	4.48	.1623	.27	3.27
1.15	4.37	.1550	.22	3.28

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.91	5.92	.1681	-.13	4.71	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	3.88	-.3275	-.02	3.83	-.4078	-.0106	.1411	-.1058
24	-.12	4.94	-.4143	-.01	4.67	-.4950	.0835	.1198	-.1706
36	-.17	5.86	-.4892	-.02	5.52	-.5856	.0566	.1098	-.1464
48	-.24	6.40	-.5333	-.01	5.84	-.6178	.0876	.0676	-.1523
60	-.30	6.99	-.5841	-.00	6.21	-.6538	.0694	.0602	-.1350
72	-.34	7.27	-.6101	-.01	6.25	-.6565	.0910	.0293	-.1382

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.90	-.02

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.42	5.55	.2000	.36	4.25
1.46	5.32	.1934	.34	4.02
1.42	5.11	.2195	.22	3.76
1.39	4.96	.2113	.16	3.66
1.35	4.77	.2331	.11	3.53
1.32	4.66	.2220	.06	3.53

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.61	6.54	.2292	-.25	5.10	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	4.36	-.3320	-.02	3.98	-.3996	.1151	.0806	-.1491
24	-.16	5.43	-.4106	-.01	4.95	-.4902	.1215	.0902	-.1832
36	-.27	6.44	-.4899	-.02	5.65	-.5566	.1352	.0610	-.1937
48	-.37	7.00	-.5330	-.05	6.08	-.5904	.1157	.0452	-.1681
60	-.44	7.59	-.5811	-.07	6.48	-.6368	.1305	.0114	-.1702
72	-.53	7.92	-.6094	-.07	6.72	-.6613	.1578	-.0156	-.1841

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.48	-.16

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.92	6.13	.2469	.36	4.63
1.90	5.90	.2563	.35	4.38
1.83	5.64	.2629	.24	4.18
1.75	5.49	.2826	.14	4.05
1.70	5.29	.2823	.06	3.90
1.65	5.15	.2732	.03	3.80

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.26	-7.32	.2449	-.29	5.77	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.11	4.65	-.3231	-.02	4.39	-.3828	.1051	.0685	-.1276
24	-.19	5.85	-.4012	-.00	5.36	-.4659	.1266	.0610	-.1592
36	-.31	7.00	-.4764	-.04	6.20	-.5356	.1341	.0442	-.1728
48	-.44	7.51	-.5127	-.07	6.74	-.5811	.1186	.0252	-.1488
60	-.56	8.31	-.5692	-.12	7.18	-.6251	.1355	-.0053	-.1555
72	-.66	8.56	-.5890	-.12	7.45	-.6529	.1493	-.0310	-.1516

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.88	-.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.34	6.89	.2664	.37	5.30
2.33	6.66	.2724	.33	5.06
2.27	6.38	.2823	.23	4.83
2.17	6.25	.2980	.12	4.67
2.09	5.99	.3022	.03	4.48
2.02	5.89	.3035	-.02	4.36

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.20	8.50	.2755	-.29	6.84	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.14	5.33	-.3201	-.03	4.98	-.3687	.1536	.0194	-.1151
24	-.27	6.67	-.3918	-.04	6.19	-.4590	.1615	.0048	-.1279
36	-.43	7.81	-.4584	-.08	7.24	-.5360	.1768	-.0168	-.1471
48	-.55	8.52	-.5006	-.11	7.77	-.5696	.1611	-.0251	-.1358
60	-.69	9.40	-.5555	-.16	8.24	-.6103	.1816	-.0617	-.1421
72	-.82	9.71	-.5744	-.19	8.52	-.6339	.1835	-.0796	-.1356

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.68	-.31

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.85	8.04	.2931	.34	6.34
2.82	7.80	.3040	.26	6.05
2.74	7.54	.3101	.18	5.77
2.65	7.35	.3263	.10	5.60
2.55	7.06	.3284	-.02	5.41
2.46	6.96	.3330	-.08	5.28

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (M) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.94	9.81	.2893	-.45	8.26	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.16	5.87	-.3044	-.03	6.16	-.3793	.1727	-.0260	-.0915
24	-.33	7.29	-.3750	-.03	7.62	-.4720	.1357	-.0153	-.0974
36	-.48	8.77	-.4514	-.08	8.68	-.5384	.1662	-.0417	-.1275
48	-.60	9.54	-.4932	-.09	9.17	-.5710	.1573	-.0490	-.1240
60	-.78	10.41	-.5372	-.14	9.76	-.6131	.1790	-.0825	-.1309
72	-.92	10.76	-.5558	-.18	10.14	-.6383	.1680	-.0879	-.1214

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.28	-.50

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.27	9.33	.3027	.10	7.63
3.19	9.08	.3206	.10	7.27
3.12	8.74	.3226	.03	6.95
3.03	8.52	.3347	-.03	6.77
2.92	8.26	.3359	-.13	6.52
2.84	8.15	.3479	-.19	6.35

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.75	11.13	.3194	-.74	9.58	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.18	6.47	-.2972	-.06	6.78	-.3595	.1769	-.0301	-.0882
24	-.37	8.10	-.3724	-.07	8.38	-.4498	.1794	-.0356	-.1151
36	-.54	9.90	-.4564	-.10	9.81	-.5284	.2210	-.0842	-.1432
48	-.72	10.66	-.4933	-.14	10.39	-.5647	.1957	-.0988	-.1295
60	-.94	11.57	-.5350	-.22	10.93	-.6025	.2175	-.1379	-.1355
72	-1.13	12.02	-.5544	-.30	11.33	-.6268	.1904	-.1280	-.1290

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.02	-.88

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.70	10.62	.3343	.00	8.93
3.61	10.32	.3436	.04	8.54
3.50	9.89	.3426	-.11	8.13
3.36	9.68	.3512	-.28	7.90
3.21	9.40	.3473	-.44	7.64
3.12	9.26	.3607	-.49	7.46

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.90	12.59	.3353	-1.60	10.92	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.21	7.24	-.2951	-.10	7.[illegible]	-.3413	.1967	-.0697	-.0694
24	-.39	8.80	-.3604	-.11	8.85	-.4212	.1919	-.0672	-.0978
36	-.60	10.83	-.4491	-.13	10.64	-.5075	.2314	-.1058	-.1341
48	-.84	11.76	-.4880	-.20	11.27	-.5441	.1934	-.1074	-.1241
60	-1.12	12.78	-.5332	-.33	12.06	-.5916	.2128	-.1482	-.1326
72	-1.36	13.31	-.5511	-.44	12.37	-.6101	.1723	-.1238	-.1231

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.14	-1.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.19	12.03	.3462	-.76	10.26
4.15	11.74	.3536	-.59	9.90
3.99	11.24	.3541	-.64	9.41
3.84	10.98	.3644	-.78	9.16
3.63	10.65	.3596	-.99	8.80
3.55	10.50	.3785	-1.02	8.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.72	13.28	.3392	-2.88	11.03	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.25	7.30	-.2798	-.09	6.85	-.3261	.1680	-.0463	-.0702
24	-.46	8.86	-.3362	-.11	8.52	-.4031	.1897	-.0470	-.1048
36	-.71	10.85	-.4177	-.14	10.22	-.4853	.2220	-.0773	-.1403
48	-1.00	11.91	-.4581	-.22	11.12	-.5327	.1836	-.0851	-.1272
60	-1.36	13.02	-.5036	-.35	12.02	-.5845	.2163	-.1326	-.1416
72	-1.68	13.58	-.5234	-.46	12.45	-.6079	.1816	-.1302	-.1207

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.96	-3.03

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.74	12.75	.3512	-1.23	10.43
4.77	12.49	.3563	-1.02	10.09
4.60	12.05	.3576	-1.06	9.64
4.38	11.79	.3690	-1.28	9.34
4.11	11.46	.3617	-1.50	8.95
3.91	11.31	.3780	-1.67	8.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.79	12.41	.3262	-4.21	9.48	900

DT HR	MEAN XP	S.D. XP	R (X XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.27	6.13	-.2482	-.07	6.18	-.3368	.0733	-.0022	-.0519
24	-.49	7.47	-.2945	-.11	7.27	-.3958	.1408	-.0147	-.0860
36	-.74	9.35	-.3743	-.13	8.84	-.4849	.1882	-.0456	-.1288
48	-1.02	10.27	-.4094	-.17	9.80	-.5444	.1806	-.0652	-.1303
60	-1.39	11.56	-.4641	-.24	10.42	-.5849	.1883	-.0899	-.1448
72	-1.71	12.15	-.4853	-.32	10.94	-.6163	.1832	-.1027	-.1433

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.01	-4.33

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.46	12.01	.3449	-1.74	8.92
4.53	11.84	.3472	-1.60	8.69
4.42	11.48	.3469	-1.61	8.28
4.23	11.30	.3518	-1.74	7.94
4.00	10.97	.3498	-1.87	7.68
3.81	10.83	.3533	-1.99	7.46

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.30	10.32	.2622	-5.01	7.18	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.26	5.06	-.2492	-.01	4.89	-.3534	.0963	.0378	-.0815
24	-.49	6.04	-.2919	-.04	5.83	-.4258	.1172	.0565	-.1250
36	-.73	7.54	-.3663	-.03	6.87	-.5033	.1618	-.0001	-.1469
48	-.98	8.31	-.4039	-.08	7.46	-.5513	.1353	-.0087	-.1439
60	-1.27	9.30	-.4595	-.08	7.90	-.5855	.1547	-.0385	-.1568
72	-1.55	9.95	-.4882	-.15	8.23	-.6136	.1502	-.0540	-.1566

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.54	-5.15

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.55	9.98	.2783	-1.80	6.70
3.72	9.82	.2793	-1.61	6.45
3.46	9.56	.2722	-1.83	6.18
3.26	9.39	.2757	-1.96	5.97
3.01	9.12	.2708	-2.04	5.81
2.83	8.96	.2690	-2.14	5.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.95	7.55	.2393	-4.20	5.28	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.22	4.24	-.2925	.01	4.22	-.4089	.0302	.0537	-.0691
24	-.43	4.69	-.3282	.01	4.49	-.4411	.1145	.0600	-.1391
36	-.64	5.76	-.3957	.01	5.32	-.5308	.1297	.0338	-.1589
48	-.88	6.26	-.4319	.01	5.69	-.5661	.1442	-.0022	-.1622
60	-1.09	6.91	-.4774	-.02	6.11	-.6123	.1579	-.0282	-.1699
72	-1.32	7.26	-.5061	-.06	6.35	-.6347	.1717	-.0556	-.1790

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.42	-4.31

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.57	7.20	.2650	-1.85	4.81
1.75	7.09	.2545	-1.66	4.70
1.59	6.88	.2531	-1.67	4.44
1.37	6.77	.2456	-1.73	4.33
1.20	6.59	.2426	-1.76	4.16
1.03	6.47	.2297	-1.82	4.07

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.15	5.58	.1917	-3.02	4.11	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.18	3.88	-.3629	.02	4.03	-.5047	.0126	.0521	-.0484
24	-.35	3.84	-.3615	.03	3.98	-.5062	.0453	.0573	-.0727
36	-.50	4.64	-.4355	.01	4.66	-.5984	.1013	.0168	-.1096
48	-.66	4.99	-.4650	.02	4.72	-.6121	.1519	-.0316	-.1239
60	-.83	5.44	-.5127	.00	5.06	-.6587	.1493	-.0613	-.1282
72	-1.00	5.70	-.5398	-.01	5.04	-.6566	.1791	-.0939	-.1402

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.47	-3.09

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.29	5.19	.2351	-1.50	3.54
-.31	5.19	.2299	-1.47	3.53
-.40	5.01	.2226	-1.43	3.27
-.53	4.93	.2066	-1.38	3.24
-.63	4.78	.1956	-1.37	3.09
-.75	4.69	.1771	-1.37	3.10

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-4.21	4.44	.1154	-2.06	3.19	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.16	3.76	-.4336	.03	3.80	-.6024	-.0767	.0415	.0269
24	-.28	3.50	-.4054	.03	3.37	-.5490	-.0584	.1080	-.0436
36	-.43	4.16	-.4939	.04	4.05	-.6553	.0077	.0409	-.0515
48	-.56	4.20	-.5007	.03	3.85	-.6336	.0612	.0047	-.0812
60	-.67	4.64	-.5552	.03	4.26	-.6953	.1069	-.0488	-.1020
72	-.76	4.70	-.5615	.02	4.18	-.6859	.1102	-.0372	-.1173

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-4.38	-2.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.03	4.00	.1801	-.93	2.54
-1.89	4.0[illegible]	.1615	-1.21	2.65
-2.02	3.8[illegible]	.1593	-1.06	2.40
-2.08	3.84	.1282	-1.02	2.46
-2.16	3.69	.0981	-.97	2.29
-2.18	3.67	.0938	-1.00	2.32

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.68	3.78	.1341	-1.22	2.75	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.12	3.56	-.4801	.03	3.65	-.6715	.0949	-.0897	-.0323
24	-.25	3.18	-.4338	.04	3.00	-.5679	-.0407	.0710	-.0275
36	-.36	3.84	-.5226	.06	3.75	-.7101	.1432	-.0926	-.0809
48	-.46	3.82	-.5276	.06	3.29	-.6324	.0667	-.0244	-.0534
60	-.56	4.26	-.5896	.08	3.83	-.7260	.1938	-.1307	-.1219
72	-.65	4.24	-.5891	.07	3.43	-.6603	.1296	-.0725	-.0927

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.73	-1.26

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.32	3.32	.1539	-.44	2.04
-3.24	3.41	.1884	-.82	2.26
-3.39	3.23	.1356	-.58	1.93
-3.39	3.21	.1666	-.61	2.13
-3.45	3.06	.0927	-.57	1.89
-3.47	3.06	.1327	-.57	2.06

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-8.64	3.87	.1176	-.93	2.56	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	4.54	-.5945	-.01	3.46	-.6758	.0876	-.0643	-.0516
24	-.20	3.20	-.4171	.00	3.18	-.6311	-.0214	.0423	-.0093
36	-.29	4.84	-.6316	.01	3.63	-.7174	.1327	-.0926	-.0864
48	-.40	3.84	-.5004	.00	3.44	-.6837	.0498	-.0218	-.0288
60	-.46	5.15	-.6702	.01	3.74	-.7385	.1722	-.1233	-.1122
72	-.57	4.21	-.5474	-.01	3.49	-.6903	.1085	-.0703	-.0573

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-8.66	-.98

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-4.30	3.11	.1344	-.42	1.89
-4.34	3.52	.1756	-.63	1.99
-4.41	3.00	.1059	-.44	1.79
-4.47	3.35	.1646	-.50	1.87
-4.51	2.87	.0745	-.45	1.73
-4.57	3.24	.1331	-.46	1.86

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-10.10	3.85	-.1068	-.57	2.63	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	4.83	-.6306	-.01	3.87	-.7356	-.3393	.2300	.2335
24	-.20	3.33	-.4185	-.01	3.13	-.5943	-.0531	.0455	.0240
36	-.27	4.99	-.6414	-.02	4.01	-.7618	-.2776	.1906	.2035
48	-.39	3.74	-.4598	-.01	3.43	-.6494	-.0071	.0056	.0080
60	-.45	5.35	-.6813	-.05	4.01	-.7536	-.2328	.1845	.1585
72	-.54	4.17	-.5172	-.06	3.45	-.6423	.0261	-.0025	-.0273

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-10.07	-.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-5.14	2.99	.0998	-.14	1.78
-5.31	3.50	-.1188	-.38	2.12
-5.32	2.96	.0705	-.15	1.70
-5.52	3.42	-.1497	-.28	2.00
-5.38	2.82	.0391	-.33	1.73
-5.53	3.30	-.1784	-.38	2.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-11.43	3.65	-.1461	-.44	2.99	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	4.01	-.5515	-.01	4.63	-.7760	-.3447	.2305	.2189
24	-.18	3.40	-.4585	-.00	3.36	-.5623	-.0731	.0338	.0380
36	-.26	4.14	-.5628	.01	4.72	-.7903	-.2808	.2282	.1648
48	-.37	3.77	-.5066	.04	3.64	-.6025	-.0631	.0430	.0342
60	-.48	4.34	-.5844	.04	4.84	-.8032	-.2712	.2310	.1681
72	-.58	4.02	-.5414	.02	3.60	-.5958	-.0013	.0063	.0131

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-11.41	-.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-5.86	3.05	.0072	.13	1.88
-5.91	3.25	-.1742	-.15	2.47
-5.91	3.02	-.0243	-.27	1.83
-6.02	3.15	-.1786	-.25	2.39
-6.08	2.97	-.0071	-.32	1.78
-6.11	3.07	-.2004	-.26	2.40

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-12.57	3.81	-.0813	-.43	2.96	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	3.88	-.5062	-.00	4.49	-.7599	-.1105	.0397	.0932
24	-.21	3.56	-.4617	-.01	3.38	-.5746	-.1674	.0788	.0945
36	-.29	4.07	-.5287	-.01	4.57	-.7785	-.0800	.0470	.0628
48	-.38	4.08	-.5275	.02	3.49	-.5917	-.1041	.0569	.0662
60	-.48	4.35	-.5635	.02	4.68	-.7914	-.0710	.0586	.0476
72	-.58	4.21	-.5460	.01	3.74	-.6319	-.0790	.0652	.0354

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-12.54	-.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.45	3.28	-.0585	.20	1.92
-6.53	3.38	-.0483	-.04	2.42
-6.53	3.23	-.0759	-.09	1.85
-6.60	3.23	-.0651	-.18	2.38
-6.63	3.14	-.0837	-.23	1.81
-6.65	3.19	-.0779	-.35	2.29

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.31	4.11	-.0422	-.42	2.71	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.12	4.17	-.5018	-.01	3.91	-.7210	-.0294	-.0013	.0376
24	-.22	3.75	-.4530	-.02	3.52	-.6497	-.1402	.0784	.0812
36	-.33	4.35	-.5251	-.04	4.02	-.7458	-.0042	-.0023	.0123
48	-.42	4.16	-.5066	-.02	3.68	-.6769	-.1608	.1189	.0751
60	-.52	4.57	-.5570	-.02	3.99	-.7352	-.0052	.0020	.0066
72	-.64	4.32	-.5260	-.01	3.74	-.6835	-.0796	.0649	.0262

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.27	-.42

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.82	3.56	-.0440	-.02	1.87
-6.88	3.67	.0071	-.09	2.06
-6.89	3.50	-.0633	-.18	1.80
-6.86	3.55	.0216	-.31	1.99
-6.92	3.42	-.0681	-.21	1.84
-6.96	3.50	-.0302	-.30	1.98

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.98	4.45	-.0665	-.57	2.64	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.13	4.48	-.4985	-.02	3.46	-.6566	-.1067	.0552	.0622
24	-.24	4.07	-.4565	-.03	3.51	-.6695	-.1707	.1047	.0707
36	-.35	4.73	-.5322	-.05	3.72	-.7129	-.0925	.0553	.0432
48	-.47	4.38	-.5033	-.04	3.77	-.7236	-.1320	.0923	.0481
60	-.59	4.93	-.5653	-.05	3.78	-.7246	-.0914	.0677	.0330
72	-.70	4.68	-.5459	-.06	3.78	-.7207	-.1137	.0506	.0634

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.97	-.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-7.14	3.86	-.0506	-.15	1.99
-7.11	3.96	-.0356	-.19	1.96
-7.15	3.77	-.0697	-.21	1.85
-7.03	3.85	-.0558	-.26	1.82
-7.12	3.67	-.0734	-.30	1.82
-7.10	3.73	-.0653	-.05	1.83

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-14.34	4.69	-.0763	-.69	2.82	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (X,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.11	4.33	-.4574	-.03	3.85	-.6830	-.1273	.0636	.0663
24	-.20	4.27	-.4321	-.01	3.87	-.6871	-.0975	.0394	.0507
36	-.33	4.78	-.4856	-.02	3.99	-.7050	-.1662	.0825	.0973
48	-.45	4.81	-.4970	-.03	3.91	-.6872	-.0682	-.0008	.0536
60	-.59	5.04	-.5263	-.06	4.04	-.7139	-.0856	.0298	.0517
72	-.70	5.05	-.5334	-.06	3.94	-.6932	-.0688	.0252	.0345

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-14.31	-.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-7.33	4.17	-.0642	-.14	2.06
-7.67	4.23	-.0816	-.09	2.05
-7.73	4.10	-.0396	-.06	2.00
-7.66	4.07	-.1004	.03	2.04
-7.63	3.99	-.0941	-.13	1.97
-7.59	3.97	-.1057	-.21	2.03

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JUNE
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-14.65	5.04	-.0857	-.85	2.88	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.14	4.30	-.4305	-.01	3.96	-.6911	-.1246	.0398	.0764
24	-.26	4.43	-.4417	-.00	3.81	-.6627	-.0736	.0193	.0391
36	-.39	5.02	-.4991	.02	4.15	-.7210	-.1203	.0320	.0807
48	-.51	5.10	-.5137	.02	4.00	-.6911	-.0784	.0247	.0456
60	-.65	5.35	-.5416	.02	4.11	-.7061	-.1108	.0444	.0687
72	-.75	5.46	-.5560	.02	3.92	-.6680	-.0571	.0322	.0186

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-14.58	-.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-7.45	4.55	-.0810	.02	2.08
-7.48	4.52	-.1084	-.16	2.16
-7.59	4.37	-.0915	.04	1.99
-7.52	4.33	-.1119	-.19	2.08
-7.57	4.24	-.0932	-.17	2.04
-7.52	4.19	-.1239	-.39	2.15

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6	1/56 - 12/70	0	90.0	-1.08	2.68	.0014	.93	2.38	900
6	1/56 - 12/70	1	90.0	.12	5.13	.1921	1.65	3.86	900
6	1/56 - 12/70	2	90.0	1.27	5.04	.1908	.92	4.00	900
6	1/56 - 12/70	3	90.0	1.87	5.05	.1333	.76	4.11	900
6	1/56 - 12/70	4	90.0	2.27	5.26	.1406	.59	4.25	900
6	1/56 - 12/70	5	90.0	2.56	5.57	.1087	.26	4.41	900
6	1/56 - 12/70	6	90.0	2.91	5.92	.1681	-.13	4.71	900
6	1/56 - 12/70	7	90.0	3.61	6.54	.2292	-.25	5.10	900
6	1/56 - 12/70	8	90.0	4.26	7.32	.2449	-.29	5.77	900
6	1/56 - 12/70	9	90.0	5.20	8.50	.2755	-.29	6.84	900
6	1/56 - 12/70	10	90.0	5.94	9.81	.2893	-.45	8.26	900
6	1/56 - 12/70	11	90.0	6.75	11.13	.3194	-.74	9.58	900
6	1/56 - 12/70	12	90.0	7.90	12.59	.3353	-1.60	10.92	900
6	1/56 - 12/70	13	90.0	8.72	13.28	.3392	-2.88	11.03	900
6	1/56 - 12/70	14	90.0	7.79	12.41	.3262	-4.21	9.48	900
6	1/56 - 12/70	15	90.0	5.30	10.32	.2622	-5.01	7.18	900
6	1/56 - 12/70	16	90.0	1.95	7.55	.2393	-4.20	5.28	900
6	1/56 - 12/70	17	90.0	-1.15	5.58	.1917	-3.02	4.11	900
6	1/56 - 12/70	18	90.0	-4.21	4.44	.1154	-2.06	3.19	900
6	1/56 - 12/70	19	90.0	-6.68	3.78	.1341	-1.22	2.75	900
6	1/56 - 12/70	20	90.0	-8.64	3.87	.1176	-.93	2.56	900
6	1/56 - 12/70	21	90.0	-10.10	3.85	-.1068	-.57	2.63	900
6	1/56 - 12/70	22	90.0	-11.43	3.65	-.1461	-.44	2.99	900
6	1/56 - 12/70	23	90.0	-12.57	3.81	-.0813	-.43	2.96	900
6	1/56 - 12/70	24	90.0	-13.31	4.11	-.0422	-.42	2.71	900
6	1/56 - 12/70	25	90.0	-13.98	4.45	-.0665	-.57	2.64	900
6	1/56 - 12/70	26	90.0	-14.34	4.69	-.0763	-.69	2.82	900
6	1/56 - 12/70	27	90.0	-14.65	5.04	-.0857	-.85	2.88	900

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.60	2.29	-.1376	1.48	1.84	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	2.86	-.6311	.02	2.35	-.6381	-.3576	.2397	.2099
24	.03	2.30	-.5119	.04	2.26	-.6191	-.1724	.1357	.0642
36	.06	3.06	-.6839	.03	2.53	-.6881	-.2633	.1981	.1686
48	.05	2.72	-.6127	.02	2.51	-.6851	-.1330	.1158	.0689
60	.07	3.23	-.7202	.02	2.65	-.7246	-.1984	.1618	.1396
72	.07	2.87	-.6426	.00	2.63	-.7179	-.0617	.0526	.0499

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.62	1.63

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.30	1.78	.0061	.68	1.42
-.31	1.97	-.1230	.67	1.45
-.27	1.67	-.0188	.67	1.34
-.27	1.81	-.1308	.66	1.34
-.25	1.59	-.0491	.66	1.27
-.23	1.76	-.1809	.66	1.28

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.79	4.40	-.0129	2.73	3.31	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.84	2.84

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.08	2.95	-.3333	.02	3.06	-.4711	.1423	-.0177	-.0785	.28	4.15	-.0406	1.31	2.92
24	.13	3.46	-.3899	.03	3.37	-.5200	.1202	-.0180	-.0729	.34	4.05	-.0428	1.31	2.82
36	.16	4.45	-.5008	.03	4.06	-.6222	.1328	-.0646	-.0759	.42	3.81	-.0755	1.30	2.59
48	.17	4.95	-.5580	.04	4.26	-.6523	.1325	-.0789	-.0654	.48	3.65	-.0817	1.31	2.51
60	.18	5.51	-.6211	.04	4.51	-.6915	.1004	-.0649	-.0508	.49	3.45	-.0800	1.31	2.39
72	.16	5.74	-.6475	.04	4.49	-.6865	.0707	-.0440	-.0289	.49	3.35	-.0538	1.31	2.41

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.18	4.45	.0981	1.85	3.45	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.06	3.18	-.3454	.01	3.16	-.4649	.0536	.0262	-.0543
24	.12	3.67	-.4018	.04	3.53	-.5204	.1502	-.0099	-.1109
36	.15	4.58	-.5054	.06	4.25	-.6228	.1617	-.0912	-.0861
48	.18	5.03	-.5567	.08	4.38	-.6403	.1836	-.1250	-.0869
60	.19	5.53	-.6130	.09	4.67	-.6823	.1460	-.1149	-.0663
72	.19	5.75	-.6393	.11	4.71	-.6861	.1436	-.1155	-.0637

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.39	1.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.44	4.17	.1091	.92	3.05
.44	4.07	.0865	.94	2.94
.56	3.84	.0730	.90	2.70
.61	3.70	.0600	.90	2.65
.62	3.51	.0753	.90	2.52
.63	3.42	.0779	.91	2.51

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.35	4.59	.1239	1.62	3.51	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.58	1.66

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.06	3.04	-.3203	.03	2.95	-.4253	.0970	.0238	-.0834	.49	4.34	.1276	.89	3.17
24	.12	3.76	-.4015	.06	3.57	-.5131	.1580	-.0365	-.1053	.56	4.20	.1115	.86	3.01
36	.16	4.65	-.5003	.08	4.28	-.6146	.1505	-.0946	-.0884	.63	3.98	.1076	.83	2.77
48	.20	5.09	-.5501	.10	4.53	-.6501	.1583	-.1107	-.0836	.67	3.84	.1029	.82	2.67
60	.20	5.52	-.5976	.12	4.77	-.6875	.1668	-.1274	-.0883	.68	3.68	.0955	.83	2.55
72	.19	5.78	-.6289	.15	4.81	-.6965	.1632	-.1276	-.0821	.69	3.57	.1039	.84	2.52

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.36	4.79	.1173	1.45	3.77	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.07	3.11	-.3243	.04	3.13	-.4275	.0617	.0507	-.0936
24	.12	3.93	-.4168	.05	3.76	-.5061	.1301	-.0041	-.1191
36	.16	4.74	-.5042	.09	4.46	-.6021	.1294	-.0361	-.1136
48	.19	5.26	-.5591	.09	4.83	-.6510	.1306	-.0742	-.0899
60	.20	5.68	-.6032	.11	5.13	-.6947	.1356	-.1034	-.0777
72	.20	5.94	-.6309	.13	5.21	-.7087	.1261	-.1131	-.0553

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.56	1.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.46	4.52	.1200	.87	3.39
.52	4.34	.1054	.83	3.24
.58	4.13	.1015	.81	3.00
.64	3.97	.1031	.78	2.86
.67	3.82	.1008	.77	2.71
.69	3.71	.1153	.77	2.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.16	4.86	.0779	1.10	3.86	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.05	3.25	-.3260	.03	3.31	-.4339	.0782	.0499	-.0900
24	.10	3.95	-.4091	.03	3.79	-.4994	.0994	.0232	-.1018
36	.13	4.89	-.5073	.06	4.56	-.5985	.1184	-.0246	-.0979
48	.16	5.31	-.5539	.05	4.91	-.6453	.1109	-.0626	-.0633
60	.17	5.84	-.6076	.06	5.26	-.6927	.1035	-.0929	-.0363
72	.16	6.09	-.6302	.08	5.34	-.7054	.0969	-.1008	-.0178

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.33	.99

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.46	4.58	.0778	.73	3.46
.48	4.42	.0718	.69	3.33
.53	4.18	.0619	.66	3.08
.57	4.05	.0662	.63	2.95
.60	3.86	.0697	.61	2.78
.61	3.77	.0816	.61	2.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.81	4.93	.0539	.76	4.14	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	3.45	-.3476	.01	3.66	-.4441	.0571	.0725	-.0965
24	.07	4.21	-.4311	-.01	4.12	-.5063	.0642	.0384	-.0872
36	.09	5.12	-.5256	.02	4.94	-.6052	.0781	-.0084	-.0688
48	.13	5.54	-.5710	.01	5.30	-.6509	.0649	-.0398	-.0331
60	.14	5.95	-.6084	.01	5.59	-.6884	.0721	-.0742	-.0127
72	.12	6.19	-.6288	.01	5.69	-.7018	.0644	-.0737	-.0005

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.85	.61

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.35	4.61	.0536	.55	3.69
24	.38	4.44	.0517	.49	3.56
36	.41	4.19	.0482	.48	3.29
48	.45	4.05	.0541	.45	3.14
60	.47	3.91	.0524	.44	3.00
72	.47	3.83	.0642	.44	2.95

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.28	5.01	.0897	.37	4.36	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	3.49	-.3513	-.01	3.69	-.4224	-.0003	.0524	-.0786
24	.06	4.28	-.4350	-.02	4.37	-.5076	.0458	.0488	-.0852
36	.08	5.12	-.5208	-.04	5.18	-.5977	.0460	.0192	-.0628
48	.09	5.66	-.5727	-.03	5.53	-.6428	.0663	-.0386	-.0425
60	.08	5.97	-.6000	-.03	5.87	-.6833	.0836	-.0735	-.0330
72	.07	6.21	-.6193	-.06	5.97	-.6954	.0655	-.0746	-.0073

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.37	.22

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.09	4.68	.1057	.29	3.93
.10	4.50	.1007	.27	3.74
.12	4.28	.1120	.25	3.49
.14	4.11	.1030	.24	3.34
.14	4.01	.0983	.24	3.18
.14	3.93	.1182	.22	3.13

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.10	5.55	.1673	-.10	4.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.00	3.78	-.3430	-.01	3.82	-.4115	.0586	.0497	-.0911
24	.01	4.78	-.4398	-.04	4.60	-.5017	.0778	.0098	-.0863
36	.00	5.69	-.5344	-.05	5.35	-.5825	.0805	-.0304	-.0757
48	.01	6.16	-.5755	-.03	5.84	-.6382	.1130	-.0859	-.0684
60	-.02	6.51	-.6059	-.04	6.12	-.6725	.1109	-.1004	-.0587
72	-.02	6.77	-.6277	-.08	6.30	-.6900	.1250	-.1148	-.0641

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.06	-.24

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.05	5.20	.1820	.02	4.29
-.06	4.97	.1877	.01	4.08
-.06	4.69	.1923	-.00	3.83
-.07	4.54	.1838	.01	3.63
-.08	4.41	.1906	.01	3.49
-.09	4.32	.1867	-.01	3.41

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.66	6.49	.2715	-.61	5.39	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.00	4.33	-.3414	-.01	4.17	-.3921	.1401	.0071	-.1113
24	.03	5.62	-.4464	-.05	5.28	-.5038	.1540	-.0424	-.1128
36	.03	6.62	-.5347	-.06	6.18	-.5906	.1485	-.0765	-.1139
48	.01	7.18	-.5792	-.05	6.68	-.6434	.1760	-.1141	-.1277
60	-.03	7.61	-.6119	-.07	6.98	-.6735	.1920	-.1468	-.1272
72	-.05	7.91	-.6369	-.12	7.14	-.6862	.2228	-.1693	-.1534

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.04	-.84

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.56	6.08	.2887	-.18	4.95
-.58	5.80	.2983	-.20	4.65
-.59	5.48	.3084	-.21	4.35
-.61	5.28	.3027	-.20	4.13
-.65	5.13	.2996	-.21	3.98
-.65	5.00	.2779	-.24	3.92

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.01	7.44	.3200	-1.21	6.11	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.01	5.04	-.3460	-.00	4.60	-.3825	.1387	.0187	-.1171
24	-.00	6.42	-.4409	-.06	5.85	-.4905	.2055	-.0570	-.1391
36	-.03	7.66	-.5343	-.09	6.91	-.5826	.2265	-.0942	-.1718
48	-.07	8.24	-.5733	-.08	7.45	-.6284	.2497	-.1327	-.1857
60	-.13	8.94	-.6219	-.14	7.88	-.6635	.2613	-.1691	-.1873
72	-.18	9.26	-.6466	-.21	8.13	-.6813	.2994	-.2038	-.2161

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.09	-1.49

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.31	6.96	.3474	-.53	5.62
-.38	6.66	.3470	-.51	5.31
-.39	6.27	.3499	-.51	4.96
-.44	6.08	.3411	-.49	4.75
-.49	5.82	.3388	-.51	4.57
-.52	5.67	.3098	-.55	4.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.47	8.67	.3326	-1.92	6.80	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	5.92	-.3427	-.01	5.16	-.3886	.1014	.0029	-.0922
24	-.11	7.39	-.4275	-.07	6.49	-.4895	.1822	-.0494	-.1330
36	-.14	9.03	-.5308	-.10	7.75	-.5889	.2172	-.0971	-.1707
48	-.20	9.77	-.5741	-.10	8.36	-.6352	.2468	-.1260	-.1988
60	-.26	10.60	-.6269	-.15	8.93	-.6746	.2798	-.1823	-.2146
72	-.34	10.90	-.6471	-.21	9.10	-.6871	.3189	-.2130	-.2441

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.53	-2.24

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.53	8.13	.3604	-.83	6.25
-.61	7.82	.3614	-.84	5.92
-.64	7.33	.3632	-.83	5.49
-.67	7.08	.3548	-.83	5.24
-.75	6.74	.3339	-.84	5.02
-.79	6.60	.3051	-.88	4.94

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.06	9.74	.3124	-2.84	7.43	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.11	6.46	-.3304	-.01	5.49	-.3828	.0925	.0075	-.0850
24	-.18	8.23	-.4229	-.07	6.90	-.4815	.1749	-.0215	-.1506
36	-.23	10.17	-.5279	-.11	8.27	-.5788	.2150	-.0735	-.1869
48	-.30	11.08	-.5770	-.12	8.97	-.6269	.2363	-.1066	-.2003
60	-.37	11.98	-.6279	-.17	9.61	-.6683	.2792	-.1543	-.2338
72	-.47	12.29	-.6474	-.23	9.85	-.6846	.2961	-.1739	-.2488

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.25	-3.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.70	9.18	.3379	-1.29	6.86
-.71	8.79	.3365	-1.31	6.49
-.79	8.24	.3346	-1.29	6.05
-.87	7.93	.3318	-1.28	5.78
-.93	7.56	.3051	-1.30	5.52
-.98	7.40	.2895	-1.33	5.41

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.75	10.28	.2741	-3.99	7.84	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.10	-4.48

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.09	6.75	-.3332	-.02	5.69	-.3766	.0381	.0545	-.0902	-.61	9.66	.3028	-1.90	7.25
24	-.13	8.48	-.4216	-.07	7.16	-.4762	.1628	.0080	-.1641	-.67	9.26	.2923	-1.86	6.86
36	-.17	10.59	-.5291	-.09	8.50	-.5566	.1885	-.0303	-.1979	-.76	8.66	.2908	-1.81	6.43
48	-.23	11.63	-.5824	-.09	9.36	-.6211	.2226	-.0743	-.2135	-.90	8.31	.2813	-1.78	6.13
60	-.29	12.58	-.6319	-.12	9.94	-.6587	.2421	-.1064	-.2313	-.97	7.92	.2665	-1.78	5.89
72	-.38	12.90	-.6515	-.17	10.19	-.6762	.2616	-.1289	-.2462	-1.03	7.75	.2485	-1.79	5.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.41	8.93	.2518	-4.52	7.09	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	5.97	-.3445	-.03	5.17	-.3763	.0081	.0760	-.0967
24	-.09	7.19	-.4176	-.05	6.22	-.4590	.1046	.0603	-.1667
36	-.15	9.05	-.5279	-.07	7.48	-.5493	.1587	.0176	-.2070
48	-.20	9.89	-.5773	-.10	8.11	-.5934	.1926	-.0240	-.2189
60	-.23	10.85	-.6338	-.12	8.69	-.6366	.2093	-.0562	-.2340
72	-.31	11.12	-.6552	-.16	8.96	-.6552	.2309	-.0878	-.2402

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.78	-6.01

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.52	8.35	.2814	-1.78	6.55
-.43	8.04	.2761	-1.72	6.26
-.69	7.51	.2748	-1.63	5.88
-.88	7.23	.2661	-1.60	5.67
-.98	6.85	.2551	-1.56	5.44
-1.10	6.70	.2386	-1.56	5.34

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-4.34	6.57	.2673	-3.91	5.60	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	4.54	-.3611	.00	4.59	-.4214	.0514	.0564	-.1046
24	-.08	5.21	-.4173	.01	4.64	-.4358	.1169	.0522	-.1677
36	-.09	6.59	-.5249	-.01	5.74	-.5351	.1441	.0331	-.1972
48	-.15	7.12	-.5637	.01	6.00	-.5644	.1895	-.0150	-.2084
60	-.20	7.82	-.6154	-.01	6.56	-.6151	.1874	-.0325	-.2106
72	-.26	8.09	-.6385	-.00	6.66	-.6214	.2268	-.0823	-.2135

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-4.89	-4.23

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-1.31	6.10	.2993	-2.18	5.06
24	-1.17	5.92	.2928	-2.16	5.01
36	-1.32	5.53	.3086	-2.10	4.69
48	-1.47	5.38	.2971	-1.97	4.60
60	-1.57	5.14	.3052	-1.93	4.39
72	-1.70	5.03	.2858	-1.85	4.38

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-5.07	4.80	.2954	-2.84	4.23	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.32	-2.95

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.01	3.97	-.4235	.00	3.90	-.4648	.0391	.0562	-.0916	-1.58	4.33	.3567	-1.84	3.73
24	-.04	4.18	-.4458	.02	3.76	-.4527	.0865	.0836	-.1640	-1.45	4.25	.3508	-2.08	3.73
36	-.05	5.08	-.5437	.02	4.60	-.5526	.1251	.0423	-.1766	-1.59	3.99	.3737	-1.88	3.49
48	-.06	5.41	-.5753	.04	4.67	-.5712	.1938	.0005	-.2169	-1.65	3.89	.3536	-1.79	3.44
60	-.08	5.79	-.6128	.07	5.09	-.6224	.1986	-.0452	-.1938	-1.76	3.78	.3619	-1.61	3.29
72	-.11	6.07	-.6380	.07	5.07	-.6226	.2176	-.0671	-.1960	-1.82	3.69	.3612	-1.54	3.29

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.28	3.66	.2318	-1.98	3.36	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.02	3.74	-.5100	.02	3.87	-.5742	.0097	-.0056	-.0050
24	-.03	3.43	-.4686	.06	3.47	-.5176	.0369	.0474	-.0775
36	-.04	4.16	-.5669	.09	4.07	-.6046	.1103	-.0454	-.0782
48	-.05	4.37	-.5905	.11	3.93	-.5845	.1539	-.0564	-.1175
60	-.07	4.60	-.6222	.12	4.33	-.6480	.1586	-.0849	-.1034
72	-.08	4.81	-.6556	.15	4.19	-.6319	.2006	-.1119	-.1359

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-6.41	-2.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.09	3.15	.3250	-.93	2.75
-2.97	3.23	.2962	-1.32	2.87
-3.08	3.02	.2997	-1.00	2.68
-3.10	2.96	.2795	-1.04	2.72
-3.13	2.87	.2951	-.95	2.56
-3.12	2.77	.2660	-.91	2.60

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-8.39	2.97	.0348	-1.16	2.87	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.02	3.17	-.5328	.00	3.84	-.6720	-.0690	.0304	.0523
24	-.02	2.99	-.5061	.02	3.14	-.5523	-.0714	.1445	-.0598
36	-.04	3.50	-.5873	.04	3.95	-.6822	-.0163	.0280	.0019
48	-.05	3.66	-.6133	.03	3.63	-.6286	-.0025	.0525	-.0345
60	-.09	3.78	-.6322	.04	4.03	-.7019	.0042	-.0072	.0149
72	-.10	3.88	-.6511	.03	3.79	-.6605	-.0098	-.0021	.0313

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-8.37	-1.19

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-4.24	2.51	.0981	-.44	2.12
24	-4.03	2.55	.0785	-1.41	2.37
36	-4.22	2.40	.0779	-.67	2.09
48	-4.22	2.34	.0725	-.89	2.22
60	-4.29	2.30	.0772	-.52	2.04
72	-4.30	2.25	.0876	-.50	2.15

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-10.63	2.86	.1350	-.67	2.85	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.02	3.59	-.6282	.01	3.98	-.7462	.2594	-.2289	-.1356
24	-.07	3.06	-.5326	-.00	2.94	-.5453	-.0560	.0600	.0133
36	-.08	3.67	-.6352	-.02	4.00	-.7398	.2522	-.1941	-.1480
48	-.14	3.41	-.5866	-.02	3.30	-.6009	-.0127	-.0052	.0381
60	-.14	3.90	-.6673	-.03	4.07	-.7519	.2271	-.1729	-.1389
72	-.18	3.57	-.6058	-.03	3.33	-.6105	.0119	.0014	.0100

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-10.61	-.90

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-5.27	2.23	.0220	-.13	1.76
-5.36	2.42	.2228	-.70	2.22
-5.40	2.21	.0400	-.38	1.78
-5.50	2.32	.2325	-.34	2.12
-5.49	2.13	.0592	-.43	1.75
-5.57	2.28	.2324	-.52	2.10

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.01	3.43	.0679	-.81	2.39	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	4.98	-.7300	.01	3.34	-.6996	.0967	-.0720	-.0618
24	-.09	3.18	-.4646	.01	3.10	-.6408	-.0075	.0331	-.0144
36	-.12	5.07	-.7407	-.02	3.28	-.6752	.1432	-.0980	-.0998
48	-.16	3.56	-.5175	-.00	3.31	-.6816	.0111	.0116	-.0128
60	-.19	5.15	-.7539	-.00	3.45	-.7106	.1393	-.1073	-.0936
72	-.22	3.70	-.5406	.02	3.36	-.6925	.0369	-.0182	-.0216

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.01	-.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.49	2.35	.0440	-.37	1.71
-6.53	3.04	.1089	-.72	1.84
-6.55	2.31	-.0008	-.41	1.77
-6.59	2.94	.1105	-.57	1.75
-6.57	2.26	-.0106	-.36	1.68
-6.60	2.89	.0938	-.46	1.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-14.94	3.51	-.2009	-.52	2.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	5.01	-.7181	-.00	4.03	-.7394	-.3695	.2534	.2898
24	-.07	3.48	-.4941	.03	3.35	-.6166	-.1237	.0741	.0660
36	-.08	5.17	-.7353	.01	4.04	-.7428	-.3696	.2521	.2971
48	-.10	3.89	-.5504	.01	3.53	-.6490	-.0670	.0301	.0518
60	-.16	5.20	-.7486	.02	4.10	-.7563	-.3229	.2438	.2502
72	-.18	3.99	-.5793	.05	3.55	-.6605	-.0068	.0253	.0011

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-14.98	-.48

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-7.55	2.44	-.0012	-.09	1.83
-7.53	3.05	-.2355	-.24	2.14
-7.63	2.38	.0079	-.06	1.82
-7.57	2.93	-.2749	-.13	2.07
-7.49	2.33	-.0275	-.26	1.78
-7.40	2.86	-.3074	-.46	2.04

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-16.42	3.27	-.1696	-.30	3.13	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-16.43	-.29

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.04	4.10	-.6269	-.02	5.08	-.8097	-.3061	.2235	.2166	-8.33	2.55	-.0203	.17	1.83
24	-.08	3.58	-.5427	-.01	3.49	-.5576	-.1334	.0596	.0766	-8.32	2.75	-.1936	.05	2.59
36	-.12	4.24	-.6419	-.01	5.04	-.8020	-.2907	.2268	.1873	-8.34	2.51	-.0512	-.08	1.87
48	-.14	3.92	-.5893	-.03	3.71	-.5961	-.0850	.0187	.0704	-8.43	2.64	-.2260	.25	2.51
60	-.16	4.51	-.6876	-.04	4.39	-.7960	-.2713	.2078	.1850	-8.30	2.38	-.0636	-.07	1.89
72	-.19	4.07	-.6158	-.03	3.74	-.5949	-.0592	.0169	.0432	-8.39	2.58	-.2450	.06	2.51

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-17.56	3.32	-.0141	-.23	3.09	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-17.53	-.26

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.03	3.70	-.5555	.00	4.82	-.7808	-.0098	-.0016	.0184	-8.86	2.76	-.0094	.03	1.93
24	-.08	3.59	-.5445	.02	3.74	-.6013	-.0582	.0453	.0203	-8.76	2.78	.0056	-.25	2.47
36	-.11	3.91	-.5918	.00	4.94	-.7848	-.0253	-.0149	.0360	-8.83	2.67	-.0130	.37	1.91
48	-.14	3.84	-.5838	-.01	3.72	-.5885	-.0152	-.0120	.0196	-8.79	2.69	-.0226	.18	2.50
60	-.17	4.13	-.6293	-.02	4.83	-.7739	-.0064	.0161	-.0044	-8.78	2.58	-.0214	-.26	1.96
72	-.20	4.17	-.6415	-.02	3.79	-.6042	-.0443	.0253	.0195	-8.72	2.55	-.0053	-.10	2.46

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-18.66	3.50	-.0258	-.27	2.81	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-18.62	-.31

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.04	4.06	-.5808	.02	4.11	-.7365	.0342	-.0370	-.0068	-9.37	2.85	-.0685	.05	1.90
24	-.09	3.91	-.5647	.04	3.59	-.6443	-.0446	-.0074	.0592	-9.34	2.89	-.0128	.39	2.14
36	-.14	4.18	-.6018	.02	4.13	-.7182	.0257	-.0488	.0048	-9.35	2.79	-.0733	.27	1.95
48	-.18	4.13	-.6014	.01	3.57	-.6232	-.0979	.0252	.0867	-9.32	2.79	.0108	.34	2.19
60	-.23	4.53	-.6600	-.01	4.15	-.7294	.0214	-.0375	.0070	-9.28	2.63	-.0686	.13	1.92
72	-.27	4.36	-.6462	-.02	3.75	-.6585	-.1050	.0633	.0710	-9.17	2.67	.0298	-.05	2.11

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-19.44	3.82	.0182	-.52	2.70	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	4.32	-.5678	.00	3.73	-.6894	.1083	-.0658	-.0665
24	-.09	4.01	-.5312	-.01	3.65	-.6779	-.0119	-.0325	.0417
36	-.14	4.58	-.6084	-.02	3.82	-.6859	.0675	-.1186	.0196
48	-.20	4.33	-.5824	-.04	3.71	-.6649	-.0542	-.0239	.0787
60	-.25	4.80	-.6474	-.04	3.87	-.6920	.0196	-.0490	.0211
72	-.31	4.58	-.6262	-.02	3.79	-.6801	-.0192	.0094	.0238

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-19.40	-.58

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-9.72	3.15	-.0379	-.33	1.96
-9.68	3.24	.0402	.29	1.98
-9.63	3.02	-.0221	.58	1.95
-9.62	3.10	.0593	.46	2.01
-9.58	2.91	.0179	.12	1.94
-9.48	2.98	.0562	-.21	1.98

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-20.08	4.35	-.0864	-.60	2.98	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	4.51	-.5179	.00	3.96	-.6879	-.0929	.0652	.0512
24	-.09	4.29	-.5223	-.04	3.95	-.6837	-.1398	.0734	.0898
36	-.15	5.03	-.6037	-.05	3.98	-.6800	-.1302	.0444	.1154
48	-.21	4.94	-.6019	-.04	4.05	-.6960	-.1425	.0443	.1326
60	-.26	5.35	-.6496	-.01	4.13	-.7100	-.1592	.0958	.1243
72	-.30	5.23	-.6373	-.01	4.19	-.7225	-.1159	.0764	.0880

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-19.98	-.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-10.12	3.72	-.0813	-.29	2.09
-9.62	3.71	-.0587	.01	2.10
-9.83	3.46	-.0588	.21	2.11
-9.76	3.47	-.0469	.35	2.06
-9.74	3.31	-.0172	-.09	2.03
-9.68	3.35	-.0516	-.20	1.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - JULY
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-20.49	4.70	-.0384	-.80	3.09	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.07	4.75	-.5119	-.01	4.07	-.6586	-.1328	.1012	.0603
24	-.13	4.81	-.5211	-.05	4.25	-.6867	-.1083	.0455	.0809
36	-.19	5.41	-.5841	-.06	4.45	-.7126	-.1502	.0651	.1216
48	-.21	5.40	-.5900	-.06	4.08	-.6543	-.0798	-.0117	.1024
60	-.25	5.73	-.6279	-.04	4.42	-.7094	-.1094	.0536	.0912
72	-.30	5.66	-.6249	-.05	4.34	-.7001	-.0646	.0479	.0422

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-20.34	-.81

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-10.18	4.04	.0129	-.59	2.33
-10.26	4.01	.0035	-.04	2.25
-10.37	3.81	.0422	.06	2.17
-10.27	3.79	-.0146	.31	2.33
-10.20	3.66	.0205	-.16	2.18
-10.08	3.67	-.0130	-.45	2.21

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7	1/56 - 12/70	0	90.0	-.60	2.29	-.1378	1.48	1.84	930
7	1/56 - 12/70	1	90.0	.79	4.40	-.0129	2.73	3.31	930
7	1/56 - 12/70	2	90.0	1.18	4.45	.0981	1.85	3.45	930
7	1/56 - 12/70	3	90.0	1.35	4.55	.1239	1.62	3.51	930
7	1/56 - 12/70	4	90.0	1.36	4.73	.1173	1.45	3.77	930
7	1/56 - 12/70	5	90.0	1.16	4.86	.0779	1.10	3.86	930
7	1/56 - 12/70	6	90.0	.81	4.93	.0539	.76	4.14	930
7	1/56 - 12/70	7	90.0	.28	5.01	.0897	.37	4.36	930
7	1/56 - 12/70	8	90.0	-.10	5.55	.1673	-.10	4.72	930
7	1/56 - 12/70	9	90.0	-.66	6.49	.2715	-.61	5.39	930
7	1/56 - 12/70	10	90.0	-1.01	7.44	.3200	-1.21	6.11	930
7	1/56 - 12/70	11	90.0	-1.47	8.67	.3326	-1.92	6.80	930
7	1/56 - 12/70	12	90.0	-2.06	9.74	.3124	-2.84	7.43	930
7	1/56 - 12/70	13	90.0	-2.75	10.28	.2741	-3.99	7.84	930
7	1/56 - 12/70	14	90.0	-3.41	8.93	.2518	-4.52	7.09	930
7	1/56 - 12/70	15	90.0	-4.34	6.57	.2673	-3.91	5.60	930
7	1/56 - 12/70	16	90.0	-5.07	4.80	.2954	-2.84	4.23	930
7	1/56 - 12/70	17	90.0	-6.28	3.66	.2318	-1.98	3.36	930
7	1/56 - 12/70	18	90.0	-8.39	2.97	.0348	-1.16	2.87	930
7	1/56 - 12/70	19	90.0	-10.63	2.86	.1350	-.87	2.65	930
7	1/56 - 12/70	20	90.0	-13.01	3.43	.0679	-.81	2.39	930
7	1/56 - 12/70	21	90.0	-14.94	3.51	-.2009	-.52	2.72	930
7	1/56 - 12/70	22	90.0	-16.42	3.27	-.1696	-.30	3.13	930
7	1/56 - 12/70	23	90.0	-17.56	3.32	-.0141	-.23	3.09	930
7	1/56 - 12/70	24	90.0	-18.66	3.50	-.0258	-.27	2.81	930
7	1/56 - 12/70	25	90.0	-19.44	3.82	.0182	-.52	2.70	930
7	1/56 - 12/70	26	90.0	-20.08	4.35	-.0864	-.60	2.88	930
7	1/56 - 12/70	27	90.0	-20.49	4.70	-.0384	-.80	3.09	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.59	2.14	.0388	.69	1.99	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.01	2.67	-.6226	-.03	2.13	-.5350	-.1373	.1121	.0419
24	-.02	2.22	-.5092	-.05	2.18	-.5377	-.0326	.0424	-.0118
36	-.04	2.91	-.6690	-.06	2.47	-.6120	-.0746	.0631	.0348
48	-.05	2.58	-.5908	-.08	2.53	-.6271	.0055	.0238	-.0276
60	-.08	3.03	-.6990	-.09	2.71	-.6751	.0048	.0104	-.0176
72	-.10	2.69	-.6202	-.10	2.71	-.6739	.0541	-.0050	-.0651

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.57	.66

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.33	1.67	.1297	.34	1.68
24	-.33	1.84	.0623	.33	1.69
36	-.33	1.59	.1221	.33	1.58
48	-.34	1.73	.0599	.32	1.55
60	-.35	1.53	.0691	.32	1.47
72	-.37	1.68	.0248	.30	1.47

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.10	4.45	.1412	2.00	3.59	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	3.11	-.3572	-.03	3.04	-.4177	.1422	-.0242	-.0857
24	-.13	3.76	-.4357	-.04	3.45	-.4748	.1345	-.0441	-.0821
36	-.18	4.55	-.5230	-.08	4.16	-.5742	.1583	-.1027	-.0808
48	-.22	4.95	-.5703	-.11	4.39	-.6079	.1387	-.1141	-.0668
60	-.28	5.41	-.6211	-.13	4.78	-.6633	.1711	-.1459	-.0847
72	-.33	5.63	-.6470	-.16	4.83	-.6722	.1565	-.1511	-.0696

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.19	1.89

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.13	4.15	.1390	1.06	3.26
-.12	4.00	.1399	1.05	3.16
-.08	3.79	.1270	1.03	2.94
-.09	3.65	.1282	1.01	2.85
-.10	3.49	.1105	1.00	2.68
-.11	3.39	.1146	.98	2.65

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.56	4.44	.2291	1.52	3.63	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.07	3.13	-.3635	-.02	2.99	-.4112	.1408	-.0161	-.0891
24	-.11	3.82	-.4431	-.03	3.41	-.4719	.2386	-.0977	-.1228
36	-.15	4.57	-.5244	-.06	4.26	-.5916	.2020	-.1227	-.1093
48	-.21	5.01	-.5717	-.10	4.48	-.6245	.2596	-.1877	-.1320
60	-.27	5.39	-.6140	-.12	4.88	-.6826	.2374	-.1959	-.1194
72	-.33	5.66	-.6443	-.15	4.93	-.6926	.2769	-.2415	-.1371

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.65	1.35

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.11	4.13	.2447	.87	3.30
24	.13	3.98	.2249	.83	3.20
36	.14	3.78	.2370	.81	2.92
48	.14	3.64	.2059	.78	2.83
60	.12	3.50	.2197	.77	2.65
72	.11	3.39	.1847	.74	2.61

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.78	4.68	.2294	1.39	3.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	3.09	-.3393	-.01	2.92	-.3931	.1674	-.0158	-.1017
24	-.10	3.88	-.4266	-.02	3.58	-.4855	.2022	-.0772	-.1065
36	-.13	4.57	-.5029	-.03	4.31	-.5876	.1995	-.1213	-.1018
48	-.18	5.12	-.5628	-.06	4.64	-.6342	.2447	-.1776	-.1219
60	-.22	5.59	-.6107	-.09	5.00	-.6823	.2399	-.2053	-.1119
72	-.26	5.90	-.6431	-.12	5.08	-.6957	.2676	-.2426	-.1218

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.87	1.22

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.22	4.40	.2388	.82	3.42
.25	4.23	.2360	.78	3.25
.26	4.05	.2396	.75	3.01
.26	3.87	.2182	.73	2.88
.25	3.70	.2205	.70	2.72
.25	3.58	.1965	.68	2.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.91	4.83	.2555	1.43	3.83	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	3.32	-.3484	-.01	3.03	-.3956	.1936	-.0290	-.1122
24	-.08	4.06	-.4245	.01	3.73	-.4933	.2067	-.0747	-.1157
36	-.10	4.63	-.4842	.00	4.45	-.5865	.2265	-.1392	-.1110
48	-.13	5.13	-.5404	.00	4.89	-.6467	.2636	-.2114	-.1151
60	-.16	5.61	-.5902	-.03	5.18	-.6852	.2901	-.2460	-.1365
72	-.21	5.98	-.6280	-.05	5.32	-.7034	.2921	-.2619	-.1399

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.99	1.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.30	4.52	.2647	.81	3.51
.32	4.37	.2668	.78	3.33
.35	4.22	.2644	.75	3.10
.37	4.06	.2477	.73	2.91
.36	3.89	.2281	.72	2.78
.35	3.75	.2197	.70	2.71

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.93	5.05	.2454	1.22	4.13	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	3.43	-.3458	-.01	3.39	-.4083	.0926	.0046	-.0712
24	-.08	4.09	-.4063	-.01	4.11	-.4953	.2163	-.0793	-.1123
36	-.11	4.95	-.4948	-.01	5.02	-.6087	.2130	-.1393	-.1049
48	-.13	5.43	-.5445	-.02	5.39	-.6550	.2692	-.2160	-.1206
60	-.17	5.94	-.5950	-.04	5.73	-.6973	.2774	-.2446	-.1312
72	-.20	6.29	-.6335	-.06	5.82	-.7082	.2736	-.2584	-.1287

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.02	1.15

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.32	4.74	.2700	.69	3.77
.34	4.62	.2533	.67	3.59
.36	4.39	.2563	.63	3.28
.36	4.24	.2283	.61	3.12
.35	4.06	.2141	.59	2.95
.34	3.90	.2071	.57	2.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.61	5.16	.2881	.82	4.37	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	3.63	-.3465	.01	3.35	-.3817	.1122	.0120	-.0922
24	-.04	4.47	-.4258	.03	4.42	-.5047	.1774	-.0402	-.1257
36	-.05	5.36	-.5142	.01	5.28	-.6049	.2389	-.1304	-.1480
48	-.07	5.85	-.5630	.01	5.74	-.6582	.2860	-.2063	-.1564
60	-.10	6.30	-.6084	.00	6.04	-.6938	.3080	-.2636	-.1554
72	-.11	6.62	-.6428	.02	6.20	-.7122	.3136	-.2872	-.1591

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.68	.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.22	4.83	.3142	.53	4.03
.23	4.66	.3149	.52	3.77
.24	4.42	.3013	.49	3.48
.24	4.26	.2812	.47	3.29
.24	4.09	.2622	.46	3.14
.24	3.94	.2486	.46	3.06

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.24	5.24	.3124	.52	4.71	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.00	3.70	-.3421	.02	3.69	-.3958	.1[illegible]9	.0236	-.1220
24	.00	4.58	-.4255	.02	4.81	-.5118	.1[illegible]4	-.0136	-.1496
36	-.01	5.54	-.5193	.02	5.68	-.6082	.2427	-.0958	-.1772
48	-.01	6.07	-.5728	.02	6.15	-.6585	.2821	-.1213	-.1697
60	-.02	6.52	-.6172	.03	6.40	-.6860	.3168	-.2317	-.1909
72	-.01	6.80	-.6467	.06	6.57	-.7051	.3317	-.2717	-.1904

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.34	.39

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.05	4.91	.3395	.36	4.31
.05	4.72	.3489	.35	4.03
.06	4.47	.3419	.34	3.73
.07	4.29	.3295	.33	3.54
.07	4.12	.3015	.33	3.43
.07	3.99	.2843	.34	3.33

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.10	5.44	.2775	-.06	5.03	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	3.81	-.3431	.02	3.90	-.3886	.0715	.0370	-.0816
24	.03	4.86	-.4398	.03	4.97	-.4939	.1240	.0002	-.1124
36	.05	5.75	-.5203	.05	5.92	-.5926	.1752	-.0614	-.1315
48	.08	6.26	-.5680	.06	6.39	-.6415	.2196	-.1249	-.1426
60	.10	6.70	-.6060	.08	6.72	-.6754	.2647	-.1811	-.1660
72	.11	6.95	-.6315	.12	6.89	-.6935	.2919	-.2295	-.1668

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.03	-.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.09	5.10	.3107	.04	4.62
-.09	4.88	.3198	.04	4.36
-.08	4.64	.3227	.05	4.04
-.07	4.48	.3091	.06	3.85
-.07	4.33	.2796	.07	3.71
-.07	4.22	.2590	.09	3.62

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.35	5.88	.3071	-.47	5.61	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	4.10	-.3392	.02	4.15	-.3692	.0651	.0574	-.0973
24	.02	5.21	-.4328	.05	5.42	-.4838	.1480	-.0060	-.1296
36	.04	6.17	-.5097	.06	6.41	-.5763	.1698	-.0386	-.1424
48	.09	6.72	-.5603	.07	7.00	-.6320	.2199	-.1185	-.1469
60	.14	7.08	-.5911	.08	7.41	-.6694	.2563	-.1678	-.1616
72	.14	7.41	-.6198	.13	7.58	-.6888	.3061	-.2261	-.1811

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.22	-.56

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.17	5.51	.3438	-.20	5.19
24	-.19	5.29	.3470	-.18	4.89
36	-.19	5.05	.3641	-.17	4.57
48	-.18	4.87	.3519	-.16	4.35
60	-.17	4.74	.3357	-.14	4.17
72	-.17	4.61	.3039	-.12	4.07

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.43	6.66	.3848	-.96	6.72	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	4.87	-.3585	.00	4.92	-.3623	.1504	.0187	-.1219
24	.06	6.04	-.4499	.05	6.41	-.4745	.1943	-.0204	-.1527
36	.12	7.09	-.5225	.06	7.55	-.5615	.2135	-.0755	-.1493
48	.18	7.63	-.5657	.05	8.33	-.6227	.2564	-.1400	-.1614
60	.27	8.14	-.6063	.10	8.78	-.6571	.3020	-.2051	-.1755
72	.31	8.38	-.6246	.15	9.00	-.6766	.3329	-.2444	-.1917

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.29	-1.05

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.17	6.20	.4001	-.46	6.24
-.18	5.93	.4143	-.43	5.89
-.19	5.67	.4317	-.41	5.55
-.18	5.49	.4269	-.41	5.26
-.16	5.30	.4094	-.38	5.07
-.14	5.20	.3881	-.35	4.95

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.60	7.68	.3746	-1.35	7.56	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.09	5.67	-.3723	.01	5.27	-.3451	.1771	.0096	-.1237
24	.14	6.80	-.4438	.05	6.93	-.4548	.2124	-.0132	-.1587
36	.22	8.12	-.5246	.06	8.27	-.5443	.2250	-.0698	-.1535
48	.31	8.55	-.5591	.05	9.16	-.6042	.2585	-.1197	-.1659
60	.41	9.23	-.6064	.08	9.80	-.6470	.2974	-.1772	-.1810
72	.49	9.44	-.6207	.14	10.16	-.6733	.3247	-.2211	-.1899

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.48	-1.41

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.20	7.11	.4125	-.67	7.08
-.19	6.86	.4270	-.66	6.71
-.21	6.53	.4469	-.64	6.33
-.18	6.36	.4465	-.64	6.02
-.15	6.10	.4401	-.61	5.77
-.12	6.02	.4230	-.57	5.59

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.82	8.53	.3450	-2.04	8.38	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.12	6.12	-.3665	.00	5.64	-.3300	.1531	.0147	-.1101
24	.19	7.31	-.4341	.05	7.43	-.4378	.1940	-.0079	-.1417
36	.27	8.82	-.5194	.08	8.98	-.5313	.2195	-.0606	-.1501
48	.37	9.21	-.5466	.08	10.00	-.5916	.2330	-.0871	-.1583
60	.47	10.11	-.6026	.14	10.80	-.6391	.2704	-.1435	-.1752
72	.57	10.30	-.6162	.21	11.26	-.6693	.2940	-.1746	-.1884

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.71	-2.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.23	7.93	.3796	-1.06	7.89
-.23	7.67	.3918	-1.04	7.51
-.26	7.29	.4072	-1.00	7.09
-.22	7.14	.4139	-1.00	6.74
-.20	6.81	.4086	-.95	6.44
-.16	6.72	.3975	-.91	6.23

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.01	8.75	.3332	-2.96	8.53	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.11	6.03	-.3507	.02	5.57	-.3188	.1175	.0367	-.1047
24	.17	7.10	-.4064	.06	7.14	-.4132	.1436	.0440	-.1384
36	.24	8.83	-.5032	.10	8.87	-.5167	.2002	-.0213	-.1591
48	.37	9.34	-.5369	.11	9.92	-.5777	.2250	-.0593	-.1652
60	.49	10.25	-.5936	.17	10.71	-.6220	.2702	-.1176	-.1861
72	.60	10.45	-.6100	.25	11.30	-.6567	.2754	-.1375	-.1872

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.80	-3.05

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.25	8.18	.3685	-1.52	8.06
-.23	7.97	.3848	-1.49	7.71
-.31	7.55	.3967	-1.43	7.27
-.30	7.37	.4016	-1.42	6.93
-.29	7.04	.3931	-1.38	6.66
-.25	6.94	.3966	-1.34	6.42

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.69	7.89	.3615	-3.34	7.33	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.08	4.97	-.3147	.04	5.17	-.3453	.1506	.0432	-.1166
24	.14	6.10	-.3811	.07	6.18	-.4155	.1572	.0476	-.1500
36	.24	7.59	-.4729	.13	7.55	-.5080	.2221	-.0145	-.1813
48	.37	8.25	-.5145	.14	8.36	-.5597	.2523	-.0586	-.1914
60	.46	9.09	-.5694	.19	9.09	-.6086	.2870	-.1035	-.2104
72	.56	9.33	-.5900	.25	9.46	-.6359	.3103	-.1347	-.2231

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.44	-3.41

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.58	7.46	.3962	-1.80	6.85
-.53	7.26	.4101	-1.77	6.82
-.60	6.92	.4184	-1.69	6.27
-.61	6.74	.4192	-1.67	6.04
-.61	6.47	.4210	-1.63	5.79
-.58	6.36	.4124	-1.59	5.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.65	6.23	.3338	-2.59	5.23	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.06	4.27	-.3392	.03	4.01	-.3772	.0100	.0525	-.0376
24	.12	4.73	-.3757	.06	4.30	-.4011	.0206	.0701	-.0641
36	.19	5.95	-.4671	.09	5.25	-.4903	.0904	.0034	-.0748
48	.30	6.41	-.4999	.11	5.62	-.5279	.1122	-.0016	-.0956
60	.39	7.08	-.5539	.13	6.21	-.5829	.1601	-.0344	-.1295
72	.49	7.33	-.5814	.16	6.40	-.6047	.1831	-.0489	-.1578

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.42	-2.53

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.29	5.85	.3897	-1.50	4.84
-1.19	5.76	.3996	-1.54	4.78
-1.28	5.50	.4190	-1.42	4.55
-1.23	5.39	.4255	-1.41	4.44
-1.19	5.18	.4312	-1.38	4.24
-1.10	5.05	.4246	-1.37	4.16

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.89	4.52	.3323	-1.75	3.86	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	3.63	-.3922	.02	3.68	-.4690	.0719	.0122	-.0507
24	.09	3.68	-.3985	.02	3.45	-.4244	.0285	.0679	-.0632
36	.14	4.59	-.4947	.06	4.32	-.5361	.0886	.0160	-.0738
48	.20	4.87	-.5264	.06	4.38	-.5441	.1026	-.0074	-.0695
60	.25	5.34	-.5739	.07	4.73	-.5889	.1673	-.0464	-.1161
72	.32	5.50	-.5939	.08	4.80	-.6009	.1643	-.0722	-.1040

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.66	-1.60

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-2.04	4.16	.4025	-1.13	3.40
-1.95	4.14	.4084	-1.29	3.48
-1.99	3.93	.4432	-1.15	3.24
-1.98	3.85	.4493	-1.10	3.23
-1.97	3.70	.4449	-1.09	3.11
-1.94	3.64	.4443	-1.01	3.08

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-5.86	3.61	.2055	-1.17	3.14	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.05	3.42	-.4682	.00	3.60	-.5689	-.1233	.0672	.0722
24	.09	3.25	-.4332	-.01	3.26	-.5122	-.0267	.0732	-.0172
36	.12	3.84	-.5071	.00	3.77	-.5940	-.0031	.0294	.0070
48	.16	3.91	-.5186	.01	3.80	-.5978	.0632	.0097	-.0458
60	.22	4.35	-.5666	.03	4.01	-.6343	.0739	-.0520	-.0110
72	.24	4.38	-.5701	.02	4.10	-.6456	.0744	-.0419	-.0242

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-5.67	-.97

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.06	3.19	.3374	-.67	2.59
-3.05	3.25	.2883	-1.02	2.69
-3.10	3.11	.3227	-.82	2.53
-3.06	3.09	.2963	-.90	2.52
-3.11	2.97	.3073	-.65	2.43
-3.09	2.97	.3083	-.70	2.40

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-8.08	3.04	.0699	-.80	2.83	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	3.07	-.5045	-.02	3.90	-.6860	-.1373	.0787	.0809
24	.07	2.77	-.4418	-.01	3.16	-.5502	-.0297	.0894	-.0368
36	.12	3.32	-.5252	-.02	3.94	-.6968	-.0899	.0822	.0429
48	.17	3.28	-.5126	.01	3.50	-.6192	.0023	.0610	-.0417
60	.23	3.61	-.5636	.01	4.01	-.7091	-.0460	.0516	.0208
72	.27	3.64	-.5655	.04	3.63	-.6471	.0391	.0284	-.0633

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-7.90	-.63

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-4.13	2.62	.1872	-.38	2.06
-4.18	2.72	.1101	-1.09	2.35
-4.22	2.59	.1803	-.63	2.03
-4.22	2.61	.1133	-.92	2.21
-4.22	2.51	.1637	-.60	1.99
-4.21	2.50	.0945	-.80	2.15

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-10.58	3.07	.1785	-.64	2.58	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	3.58	-.5745	-.03	3.87	-.7500	.2358	-.2049	-.1215
24	.08	2.89	-.4601	-.00	2.93	-.5708	-.0375	.0617	-.0342
36	.12	3.79	-.6067	.02	3.91	-.7670	.2291	-.1649	-.1623
48	.19	3.17	-.5045	.03	3.16	-.6279	-.0052	.0271	-.0390
60	.22	3.91	-.6277	.03	3.86	-.7642	.2325	-.1670	-.1761
72	.27	3.48	-.5568	.04	3.19	-.6373	.0231	-.0193	-.0435

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-10.45	-.56

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-5.39	2.52	.1316	-.15	1.70
-5.37	2.72	.2442	-.74	2.11
-5.42	2.44	.1187	-.43	1.65
-5.35	2.65	.2474	-.54	2.01
-5.37	2.39	.1007	-.42	1.66
-5.30	2.55	.2316	-.30	1.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.06	3.39	.1099	-.44	2.34	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	4.62	-.6749	.02	3.25	-.6886	.1327	-.1167	-.0653
24	.09	3.27	-.4778	.03	2.93	-.6265	-.0081	.0356	-.0273
36	.11	4.71	-.6902	.05	3.36	-.7259	.1370	-.1056	-.0951
48	.16	3.62	-.5312	.06	3.20	-.6955	.0108	.0007	-.0227
60	.20	4.83	-.7045	.06	3.42	-.7448	.1571	-.1224	-.1146
72	.25	3.85	-.5616	.05	3.18	-.6964	.0409	-.0282	-.0328

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-12.96	-.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.61	2.50	.0893	-.05	1.70
-6.57	2.98	.1571	-.50	1.83
-6.56	2.45	.0736	-.16	1.61
-6.52	2.87	.1617	-.27	1.68
-6.55	2.41	.0438	-.16	1.56
-6.52	2.80	.1469	-.20	1.68

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-14.90	3.45	-.0273	-.31	2.41	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	4.67	-.6754	.03	3.54	-.7292	-.1566	.1181	.1015
24	.09	3.31	-.4823	.02	3.10	-.6399	.0418	-.0501	-.0035
36	.09	4.70	-.6840	.03	3.54	-.7345	-.1520	.1018	.1103
48	.15	3.63	-.5333	.05	3.29	-.6843	.0234	-.0143	-.0183
60	.19	4.75	-.6898	.04	3.56	-.7400	-.1514	.1046	.0995
72	.25	3.82	-.5549	.04	3.25	-.6760	.0242	.0024	-.0374

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-14.78	-.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-7.50	2.54	.0980	-.19	1.65
-7.41	3.02	-.0607	.09	1.85
-7.45	2.52	.0950	-.08	1.64
-7.32	2.92	-.0630	-.17	1.76
-7.38	2.50	.0846	-.10	1.62
-7.37	2.87	-.0688	-.33	1.78

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-16.38	3.37	-.1259	-.22	2.67	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	4.15	-.6127	.03	4.13	-.7797	-.3510	.2566	.2249
24	.11	3.38	-.5008	.02	3.02	-.5757	-.0385	-.0087	.0510
36	.15	4.22	-.6265	.03	4.05	-.7752	-.2870	.1938	.2072
48	.21	3.78	-.5599	.06	3.24	-.6147	-.0286	-.0041	.0482
60	.26	4.32	-.6342	.08	4.07	-.7763	-.2698	.1885	.1937
72	.33	4.02	-.5899	.08	3.26	-.6296	-.0541	.0379	.0352

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-16.28	-.18

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-8.32	2.66	.0790	.09	1.67
-8.21	2.91	-.1585	.28	2.18
-8.29	2.62	.0347	.21	1.68
-8.17	2.79	-.1661	.15	2.10
-8.28	2.60	.0233	.14	1.68
-8.18	2.72	-.1618	-.13	2.07

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-17.36	3.38	.0228	-.16	2.91	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.06	3.63	-.5390	.00	4.42	-.7533	-.1048	.0584	.0625
24	.11	3.63	-.5405	-.02	3.37	-.5749	.0372	-.0379	-.0102
36	.15	3.87	-.5769	.01	4.39	-.7658	-.0364	.0059	.0371
48	.20	3.97	-.5893	.01	3.53	-.6203	.0148	-.0123	-.0037
60	.26	4.08	-.6034	.04	4.40	-.7675	-.0287	.0162	.0182
72	.30	4.19	-.6132	.03	3.59	-.6293	.0399	-.0165	-.0285

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-17.28	-.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-8.69	2.84	.1063	.17	1.91
-8.63	2.84	.0117	.10	2.38
-8.60	2.76	.0735	.17	1.87
-8.60	2.73	.0295	-.07	2.28
-8.61	2.69	.0650	-.03	1.86
-8.68	2.67	.0165	-.21	2.26

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-18.35	3.64	.0405	-.17	2.80	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.08	4.10	-.5586	-.01	4.13	-.7278	.0742	-.0752	-.0332
24	.14	4.05	-.5504	-.03	3.52	-.6162	-.0265	-.0022	.0269
36	.21	4.28	-.5836	-.01	4.12	-.7484	.0643	-.0480	-.0346
48	.27	4.34	-.5867	-.02	3.53	-.6442	-.0158	.0156	.0077
60	.33	4.59	-.6205	-.01	4.10	-.7433	.0718	-.0409	-.0622
72	.39	4.51	-.6041	-.01	3.63	-.6655	-.0066	-.0048	.0068

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-18.21	-.13

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-9.26	3.02	.0079	.16	1.92
-9.29	3.04	.0714	.12	2.21
-9.21	2.96	.0273	-.11	1.86
-9.26	2.95	.0786	-.18	2.14
-9.24	2.85	.0040	-.25	1.87
-9.27	2.90	.0664	-.00	2.09

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-19.22	3.82	-.0303	-.36	2.76	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.07	4.42	-.5745	-.02	3.92	-.7058	.0645	-.0501	-.0352
24	.12	4.39	-.5664	-.01	3.62	-.6451	-.0301	-.0065	.0390
36	.16	4.73	-.6126	.00	3.89	-.7161	.0216	-.0305	.0029
48	.21	4.66	-.5978	.01	3.66	-.6755	-.0550	.0067	.0609
60	.27	5.02	-.6452	.03	3.95	-.7312	.0115	-.0165	-.0033
72	.33	4.90	-.6244	.02	3.74	-.6956	-.0617	.0268	.0496

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-19.11	-.35

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-9.70	3.13	-.0995	-.14	1.96
-9.75	3.15	-.0314	.12	2.11
-9.67	3.02	-.0678	-.02	1.93
-9.77	3.06	-.0124	.17	2.03
-9.70	2.92	-.0728	-.08	1.88
-9.76	2.98	-.0104	.00	1.98

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-19.75	4.16	-.0616	-.72	2.78	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	4.70	-.5607	-.01	3.72	-.6713	-.0452	.0694	-.0070
24	.09	4.61	-.5429	.01	3.70	-.6697	-.0393	.0140	.0307
36	.14	5.13	-.6090	.01	3.87	-.7037	-.0225	.0220	.0072
48	.20	4.86	-.5683	.01	3.67	-.6649	-.0348	.0346	.0054
60	.25	5.45	-.6406	-.00	3.94	-.7140	-.0937	.0799	.0472
72	.32	5.12	-.5916	.00	3.96	-.7162	-.1028	.0603	.0769

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-19.56	-.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-9.97	3.45	-.0724	-.79	2.06
-10.12	3.50	-.0765	-.18	2.06
-10.00	3.30	-.0937	-.39	1.97
-10.12	3.43	-.0839	-.46	2.07
-10.03	3.20	-.0365	-.46	1.94
-10.23	3.36	-.0256	-.18	1.94

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - AUGUST
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-20.45	4.40	-.0251	-1.09	2.94	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	4.90	-.5501	.02	3.91	-.6618	-.0513	.0777	-.0186
24	.10	4.89	-.5476	.04	4.00	-.6734	.0220	-.0216	-.0219
36	.13	5.37	-.6037	.07	4.20	-.7139	-.0445	-.0012	.0465
48	.14	5.10	-.5705	.06	3.83	-.6529	-.0230	.0081	.0053
60	.18	5.64	-.6277	.06	3.96	-.6692	-.0950	.0849	.0320
72	.26	5.49	-.5979	.07	3.94	-.6594	.0006	-.0021	-.0068

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-20.29	-1.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-10.30	3.67	-.0213	-1.07	2.20
-10.41	3.68	-.0705	-.44	2.17
-10.39	3.50	-.0212	-.13	2.05
-10.38	3.61	-.0413	-.42	2.22
-10.36	3.42	.0168	-.74	2.18
-10.61	3.53	-.0508	-.49	2.21

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8	1/56 - 12/70	0	90.0	-.58	2.14	.0388	.69	1.99	930
8	1/56 - 12/70	1	90.0	.10	4.45	.1412	2.00	3.59	930
8	1/56 - 12/70	2	90.0	.56	4.44	.2291	1.52	3.63	930
8	1/56 - 12/70	3	90.0	.78	4.68	.2294	1.39	3.72	930
8	1/56 - 12/70	4	90.0	.91	4.83	.2555	1.43	3.83	930
8	1/56 - 12/70	5	90.0	.93	5.05	.2454	1.22	4.13	930
8	1/56 - 12/70	6	90.0	.61	5.16	.2881	.82	4.37	930
8	1/56 - 12/70	7	90.0	.24	5.24	.3124	.52	4.71	930
8	1/56 - 12/70	8	90.0	-.10	5.44	.2775	-.06	5.03	930
8	1/56 - 12/70	9	90.0	-.35	5.88	.3071	-.47	5.61	930
8	1/56 - 12/70	10	90.0	-.43	6.66	.3648	-.96	6.72	930
8	1/56 - 12/70	11	90.0	-.60	7.68	.3746	-1.35	7.56	930
8	1/56 - 12/70	12	90.0	-.82	8.53	.3450	-2.04	8.38	930
8	1/56 - 12/70	13	90.0	-1.01	8.75	.3332	-2.96	8.53	930
8	1/56 - 12/70	14	90.0	-1.69	7.89	.3615	-3.34	7.33	930
8	1/56 - 12/70	15	90.0	-2.65	6.23	.3339	-2.59	5.23	930
8	1/56 - 12/70	16	90.0	-3.89	4.52	.3323	-1.75	3.86	930
8	1/56 - 12/70	17	90.0	-5.86	3.61	.2055	-1.17	3.14	930
8	1/56 - 12/70	18	90.0	-8.08	3.04	.0699	-.80	2.83	930
8	1/56 - 12/70	19	90.0	-10.58	3.07	.1785	-.64	2.58	930
8	1/56 - 12/70	20	90.0	-13.06	3.39	.1099	-.44	2.34	930
8	1/56 - 12/70	21	90.0	-14.90	3.45	-.0273	-.31	2.41	930
8	1/56 - 12/70	22	90.0	-16.38	3.37	-.1259	-.22	2.67	930
8	1/56 - 12/70	23	90.0	-17.36	3.38	.0228	-.16	2.91	930
8	1/56 - 12/70	24	90.0	-18.35	3.64	.0405	-.17	2.80	930
8	1/56 - 12/70	25	90.0	-19.22	3.82	-.0303	-.36	2.76	930
8	1/56 - 12/70	26	90.0	-19.75	4.16	-.0616	-.72	2.78	930
8	1/56 - 12/70	27	90.0	-20.45	4.40	-.0251	-1.09	2.94	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATIS ICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.59	2.77	.2344	-.24	2.70	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.01	2.71	-.4885	-.01	2.47	-.4553	.0597	.0117	-.0656
24	-.02	2.87	-.5181	-.02	2.77	-.5062	.1352	-.0179	-.1144
36	-.03	3.53	-.6378	-.03	3.27	-.5965	.1641	-.0696	-.1314
48	-.04	3.53	-.6331	-.04	3.44	-.6250	.1755	-.0803	-.1360
60	-.04	3.93	-.7067	-.05	3.61	-.6548	.2017	-.1187	-.1527
72	-.05	3.73	-.6553	-.05	3.71	-.6717	.1845	-.1227	-.1226

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.63	-.28

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.78	2.42	.2882	-.17	2.40
-.79	2.37	.2752	-.19	2.32
-.79	2.13	.2817	-.15	2.17
-.80	2.15	.2782	-.16	2.11
-.80	1.95	.2689	-.14	2.04
-.81	2.07	.2764	-.13	2.00

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.26	5.65	.2675	.40	4.93	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.06	.40

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.00	3.78	-.3332	-.02	3.88	-.3923	.0898	.0594	-.1043	-1.31	5.31	.2994	-.07	4.51
24	-.02	4.95	-.4395	-.01	4.86	-.4856	.1381	.0191	-.1323	-1.30	5.06	.3083	.01	4.29
36	.01	6.08	-.5395	.01	5.81	-.5790	.2188	-.0533	-.1760	-1.28	4.75	.2996	.07	4.00
48	-.01	6.75	-.5998	.02	6.10	-.6049	.2336	-.0815	-.1894	-1.28	4.51	.2976	.11	3.91
60	.00	7.25	-.6436	.01	6.59	-.6517	.2604	-.1354	-.1935	-1.25	4.32	.2818	.15	3.73
72	-.01	7.54	-.6658	.03	6.72	-.6596	.2848	-.1853	-.1875	-1.24	4.22	.2595	.21	3.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.93	5.99	.2796	.42	4.77	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	3.96	-.3277	.00	3.76	-.3896	.0280	.0690	-.0707
24	.03	5.16	-.4284	.03	4.77	-.4903	.1246	.0093	-.1094
36	.07	6.18	-.5148	.06	5.67	-.5794	.1900	-.0618	-.1352
48	.09	6.79	-.5696	.10	5.93	-.6012	.2284	-.0947	-.1683
60	.11	7.25	-.6070	.10	6.34	-.6413	.2391	-.1355	-.1599
72	.13	7.63	-.3361	.11	6.52	-.6557	.2610	-.1679	-.1680

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.88	.49

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.54	5.64	.3215	.10	4.37
-.52	5.40	.3263	.14	4.14
-.48	5.13	.3232	.17	3.88
-.47	4.91	.3088	.20	3.80
-.44	4.76	.3082	.22	3.66
-.43	4.62	.2943	.24	3.60

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF λ, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1:56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-.01	6.01	.2608	.52	4.63	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	3.95	-.3283	.02	3.68	-.3918	.0037	.0528	-.0420
24	.04	5.08	-.4221	.05	4.68	-.4925	.0713	.0275	-.0796
36	.06	6.04	-.5029	.08	5.50	-.5735	.1253	-.0128	-.1130
48	.07	6.71	-.5606	.10	5.82	-.6037	.1547	-.0351	-.1402
60	.08	7.17	-.5989	.13	6.09	-.6271	.1897	-.0870	-.1458
72	.10	7.48	-.6226	.14	6.34	-.6506	.2024	-.1122	-.1491

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.25	.61

DT HR	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.16	5.67	.3025	.25	4.26
24	-.15	5.44	.3154	.26	4.02
36	-.14	5.18	.3197	.27	3.79
48	-.13	4.96	.3172	.28	3.68
60	-.11	4.81	.3024	.30	3.61
72	-.10	4.70	.2961	.30	3.52

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.59	6.01	.2804	.56	4.62	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.05	3.95	-.3253	.05	3.47	-.3629	.0341	.0290	-.0354
24	.09	5.17	-.4277	.07	4.52	-.4713	.0879	.0019	-.0664
36	.10	6.10	-.5067	.10	5.40	-.5613	.1397	-.0286	-.1099
48	.11	6.64	-.5518	.12	5.76	-.5947	.1639	-.0488	-.1327
60	.13	7.08	-.5877	.14	6.08	-.6215	.1965	-.1019	-.1387
72	.16	7.26	-.6030	.15	6.30	-.6429	.2204	-.1250	-.1509

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.81	.62

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.19	5.68	.3193	.32	4.30
.22	5.43	.3361	.32	4.07
.22	5.17	.3421	.34	3.81
.23	5.00	.3411	.35	3.70
.24	4.86	.3284	.35	3.62
.26	4.79	.3167	.35	3.54

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12866) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.89	6.21	.3041	.39	4.89	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.06	.42

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.06	3.86	-.3038	.06	3.75	-.3711	-.0044	.0634	-.0389	.38	5.91	.3497	.29	4.53
24	.13	5.17	-.4105	.10	4.67	-.4592	.1139	.0065	-.0920	.42	5.65	.3540	.28	4.33
36	.16	6.19	-.4914	.14	5.63	-.5503	.1318	-.0259	-.1072	.44	5.40	.3693	.28	4.07
48	.19	6.74	-.5351	.15	6.14	-.5986	.1762	-.0651	-.1343	.45	5.24	.3529	.29	3.91
60	.22	7.17	-.5701	.20	6.46	-.6204	.2209	-.1224	-.1492	.47	5.10	.3414	.29	3.83
72	.27	7.38	-.5886	.21	6.78	-.6406	.2691	-.1652	-.1744	.50	5.02	.3168	.29	3.75

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.10	6.44	.3035	.20	5.28	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.23	.20

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.07	3.83	-.2963	.05	3.76	-.3445	.0493	.0723	-.0850	.51	6.14	.3374	.27	4.94
24	.13	5.13	-.3959	.11	4.97	-.4529	.1023	.0539	-.1181	.56	5.90	.3564	.27	4.68
36	.17	6.20	-.4772	.18	5.90	-.5360	.1216	.0271	-.1345	.59	5.64	.3738	.27	4.43
48	.21	6.84	-.5266	.21	6.47	-.5842	.1587	-.0171	-.1495	.61	5.46	.3727	.27	4.27
60	.26	7.27	-.5618	.24	6.88	-.6153	.1630	-.0683	-.1460	.63	5.32	.3664	.25	4.16
72	.30	7.53	-.5831	.24	7.13	-.6347	.2355	-.1295	-.1576	.65	5.23	.3426	.23	4.08

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12858) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.54	6.94	.3467	.23	5.76	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.06	4.13	-.2919	.07	3.91	-.3231	.0190	.0929	-.0909
24	.14	5.37	-.3802	.15	5.21	-.4349	.1085	.0545	-.1257
36	.20	6.51	-.4609	.22	6.15	-.5147	.1556	.0054	-.1498
48	.25	7.30	-.5193	.23	6.76	-.5626	.1793	-.0284	-.1656
60	.32	7.80	-.5555	.26	7.17	-.5917	.2120	-.0769	-.1725
72	.38	8.07	-.5746	.25	7.48	-.6102	.2337	-.1211	-.1668

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.60	.24

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.76	6.61	.3860	.36	5.42
.83	6.39	.4002	.35	5.15
.87	6.14	.4083	.33	4.91
.89	5.91	.4139	.31	4.74
.92	5.76	.4060	.29	4.63
.94	5.67	.3970	.26	4.56

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 30.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.20	7.56	.3835	.11	6.33	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.19	.11

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.09	4.34	-.2768	.09	4.36	-.3294	.0353	.1077	-.0909	1.20	7.24	.4307	.46	5.93
24	.19	5.66	-.3606	.17	5.67	-.4316	.1126	.0684	-.1185	1.27	7.03	.4494	.40	5.66
36	.29	6.82	-.4323	.24	6.70	-.5100	.1713	.0126	-.1440	1.33	6.79	.4585	.36	5.40
48	.36	7.67	-.4895	.25	7.33	-.5553	.1816	-.0144	-.1533	1.35	6.57	.4723	.31	5.23
60	.43	8.17	-.5236	.27	7.80	-.5832	.2001	-.0620	-.1489	1.37	6.43	.4710	.26	5.13
72	.50	8.51	-.5459	.26	8.07	-.5949	.2267	-.1111	-.1468	1.39	6.33	.4593	.21	5.08

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.10	8.17	.3868	.10	7.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.10	4.71	-.2853	.08	4.89	-.3384	.0886	.0719	-.1023
24	.25	6.08	-.3655	.18	6.15	-.4185	.1276	.0494	-.1218
36	.38	7.31	-.4344	.27	7.28	-.4965	.1445	.0159	-.1275
48	.46	8.16	-.4856	.30	7.93	-.5397	.1515	-.0083	-.1304
60	.53	8.77	-.5239	.33	8.48	-.5724	.1849	-.0643	-.1335
72	.65	9.18	-.5504	.33	8.83	-.5686	.2043	-.1079	-.1288

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.13	.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.64	7.81	.4258	.55	6.55
1.73	7.58	.4449	.49	6.32
1.81	7.34	.4650	.42	6.04
1.84	7.13	.4804	.37	5.87
1.86	6.96	.4762	.30	5.73
1.90	6.82	.4709	.23	5.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.99	9.06	.3811	-.14	8.01	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.11	5.20	-.2879	.07	5.47	-.3254	.0619	.0796	-.1105
24	.27	6.82	-.3708	.14	7.04	-.4147	.0797	.0688	-.1301
36	.39	8.26	-.4445	.24	8.39	-.4973	.0854	.0504	-.1285
48	.51	9.21	-.4949	.29	9.15	-.5416	.1173	.0085	-.1375
60	.58	9.86	-.5299	.32	9.73	-.5768	.1530	-.0503	-.1367
72	.70	10.27	-.5537	.34	10.09	-.5929	.1770	-.1075	-.1228

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.08	-.22

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.08	8.64	.4165	.62	7.53
2.20	8.37	.4361	.49	7.24
2.27	8.08	.4654	.42	6.91
2.33	7.84	.4713	.33	6.71
2.34	7.67	.4664	.23	6.53
2.36	7.54	.4578	.12	6.45

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.85	10.03	.3785	-.49	9.02	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.12	5.62	-.2795	.05	5.88	-.3097	.0566	.0417	-.0808
24	.31	7.37	-.3657	.13	7.94	-.4206	.0944	.0380	-.1198
36	.42	8.95	-.4390	.21	9.43	-.5016	.1049	.0191	-.1236
48	.54	10.10	-.4944	.28	10.27	-.5447	.1356	-.0131	-.1408
60	.62	10.93	-.5353	.34	10.90	-.5793	.1617	-.0600	-.1418
72	.78	11.45	-.5642	.35	11.28	-.5930	.1728	-.1041	-.1250

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.82	-.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.64	9.60	.4069	.38	8.56
2.76	9.29	.4249	.41	8.15
2.82	8.97	.4502	.34	7.78
2.88	8.68	.4574	.28	7.54
2.89	8.45	.4576	.19	7.34
2.90	8.27	.4567	.06	7.26

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.85	10.63	.3403	-1.09	9.93	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
5.98	-1.22

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.15	5.73	-.2646	.05	6.18	-.3013	.0451	.0610	-.0933	3.20	10.22	.3631	.29	9.44
24	.34	7.52	-.3510	.11	8.50	-.4153	.0783	.0511	-.1191	3.27	9.91	.3784	.19	9.00
36	.47	9.28	-.4287	.16	10.24	-.5021	.1013	.0200	-.1228	3.31	9.57	.3977	.01	8.56
48	.60	10.42	-.4812	.23	11.27	-.5513	.1161	-.0070	-.1283	3.35	9.29	.4078	-.08	8.27
60	.72	11.35	-.5249	.31	11.99	-.5851	.1329	-.0423	-.1267	3.38	9.03	.4135	-.18	8.05
72	.89	11.89	-.5551	.33	12.62	-.6099	.1399	-.0761	-.1156	3.40	8.83	.4175	-.31	7.87

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.96	10.90	.3121	-1.77	10.36	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.16	5.76	-.2524	.05	6.11	-.2910	.0969	.0636	-.1220
24	.37	7.46	-.3339	.10	8.40	-.3956	.1334	.0413	-.1478
36	.49	9.34	-.4181	.16	10.44	-.4920	.1324	.0176	-.1435
48	.61	10.50	-.4708	.23	11.69	-.5494	.1265	-.0092	-.1330
60	.73	11.51	-.5189	.30	12.58	-.5900	.1265	-.0410	-.1183
72	.92	12.00	-.54?3	.33	13.16	-.6145	.1282	-.0668	-.1040

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.13	-1.82

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.55	10.50	.3261	.18	9.87
3.53	10.21	.3316	-.03	9.46
3.48	9.86	.3511	-.25	8.98
3.46	9.58	.3643	-.42	8.63
3.45	9.30	.3771	-.57	8.36
3.48	9.15	.3850	-.67	8.17

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T).
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.91	10.16	.2684	-2.46	9.48	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.15	5.34	-.2505	.05	5.63	-.2946	.1238	.0479	-.1145
24	.35	6.78	-.3262	.12	7.54	-.3869	.1351	.0564	-.1508
36	.49	8.39	-.4016	.16	9.44	-.4869	.1518	.0255	-.1539
48	.58	9.51	-.4593	.25	10.56	-.5484	.1355	.0102	-.1486
60	.73	10.33	-.5025	.31	11.51	-.5952	.1369	-.0234	-.1312
72	.91	10.80	-.5306	.33	12.06	-.6214	.1253	-.0438	-.1099

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.93	-2.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.11	9.80	.2777	-.46	9.02
3.15	9.54	.2837	-.46	8.68
3.09	9.25	.2935	-.64	8.23
3.06	8.98	.3060	-.74	7.89
3.03	8.76	.3168	-.87	7.60
3.03	8.60	.3290	-.98	7.42

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.68	8.57	.2226	-2.41	7.22	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.16	4.53	-.2443	.04	4.37	-.2966	.0320	.0859	-.0944
24	.32	5.65	-.3113	.09	5.67	-.3808	.0788	.0722	-.1132
36	.46	6.95	-.3844	.13	6.97	-.4712	.0891	.0521	-.1170
48	.57	7.80	-.4405	.19	7.82	-.5300	.0636	.0489	-.1016
60	.69	8.61	-.4920	.24	8.63	-.5763	.0566	.0204	-.0809
72	.84	9.06	-.5229	.27	9.03	-.6052	.0684	-.0073	-.0748

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.97	-2.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.79	8.27	.2372	-.84	6.86
1.78	8.11	.2422	-.89	6.64
1.76	7.88	.2517	-.97	6.33
1.73	7.66	.2712	-1.01	6.10
1.71	7.44	.2850	-1.08	5.89
1.73	7.29	.2681	-1.12	5.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.23	6.62	.3031	-1.98	5.15	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.11	3.63	-.2669	.03	4.08	-.3898	.0743	.0172	-.0551
24	.23	4.13	-.2992	.05	4.21	-.4004	.1184	.0160	-.0884
36	.34	5.03	-.3665	.09	5.27	-.5009	.0799	.0189	-.0765
48	.48	5.61	-.4084	.09	5.74	-.5476	.1083	.0040	-.1025
60	.60	6.23	-.4604	.14	6.31	-.5989	.0971	-.0120	-.0903
72	.73	6.55	-.4870	.17	6.47	-.6129	.1176	-.0442	-.0969

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.10	-1.90

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.34	6.38	.3317	-1.03	4.74
.46	6.31	.3287	-1.02	4.71
.46	6.15	.3566	-1.01	4.45
.54	6.03	.3584	-1.01	4.30
.57	5.87	.3810	-1.00	4.12
.62	5.78	.3732	-.98	4.07

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.81	5.38	.2206	-1.21	3.71	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.10	3.80	-.3481	.05	3.71	-.4903	.0029	.0145	-.0071
24	.20	3.65	-.3342	.05	3.50	-.4612	.0276	.0478	-.0562
36	.30	4.67	-.4289	.10	4.45	-.5884	.0942	-.0115	-.0751
48	.40	4.87	-.4474	.10	4.51	-.5957	.0670	.0092	-.0757
60	.51	5.41	-.4992	.14	5.12	-.6729	.1329	-.0496	-.1007
72	.61	5.58	-.5204	.14	5.12	-.6721	.1024	-.0468	-.0796

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.80	-1.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.86	5.05	.2726	-.67	3.23
-.75	5.07	.2578	-.76	3.28
-.73	4.86	.2677	-.69	2.99
-.67	4.81	.2755	-.70	2.97
-.63	4.66	.2698	-.66	2.74
-.57	4.60	.2825	-.64	2.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.89	4.43	.2028	-.75	3.01	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.81	-.72

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.10	3.48	-.3874	.02	3.48	-.5778	.0854	-.0267	-.0492	-1.95	4.09	.2435	-.46	2.46
24	.18	3.19	-.3544	.04	3.24	-.5413	.1089	-.0101	-.0788	-1.90	4.14	.2261	-.56	2.53
36	.27	4.03	-.4470	.05	3.98	-.6642	.1106	-.0141	-.0945	-1.87	3.96	.2498	-.55	2.25
48	.33	4.07	-.4564	.07	3.98	-.6640	.1649	-.0602	-.1204	-1.82	3.94	.2187	-.50	2.25
60	.42	4.68	-.5165	.07	4.34	-.7209	.1590	-.0523	-.1379	-1.81	3.79	.2290	-.52	2.08
72	.49	4.68	-.5203	.06	4.26	-.7076	.1713	-.0797	-.1310	-1.76	3.78	.2185	-.48	2.13

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-6.10	3.95	.1730	-.64	2.61	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-9.13	-.63

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.09	3.45	-.4375	-.01	3.54	-.6785	.0594	-.0528	-.0134	-1.49	3.55	.2398	-.25	1.92
24	.19	3.07	-.4052	.02	3.03	-.5815	.1054	-.0049	-.0773	-1.27	3.61	.2032	-.77	2.12
36	.27	3.72	-.4832	.01	3.65	-.6958	.1239	-.0818	-.0605	-1.29	3.46	.2115	-.36	1.88
48	.35	3.85	-.4977	.03	3.52	-.6664	.1370	-.0563	-.0896	-1.29	3.42	.2022	-.54	1.95
60	.43	4.16	-.5231	.01	3.88	-.7322	.1287	-.0837	-.0746	-1.31	3.35	.2145	-.39	1.78
72	.50	4.34	-.5545	.04	3.65	-.6848	.1779	-.1079	-.1085	-1.26	3.28	.1754	-.40	1.91

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12969) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-8.07	3.89	.1293	-.45	2.42	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.09	3.74	-.4850	-.01	3.35	-.6964	.1173	-.1216	-.0162
24	.21	3.20	-.4279	.01	3.03	-.6234	.0990	-.0247	-.0514
36	.31	4.02	-.5312	.01	3.42	-.6992	.1166	-.0985	-.0323
48	.41	3.78	-.5116	.01	3.41	-.6930	.1559	-.0918	-.0725
60	.50	4.41	-.5793	.02	3.57	-.7232	.1365	-.1168	-.0529
72	.61	4.16	-.5539	.04	3.47	-.6979	.1451	-.1092	-.0633

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-9.13	-.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-3.40	3.40	.1573	.01	1.73
-3.22	3.52	.1601	-.48	1.89
-3.20	3.30	.1613	-.12	1.73
-3.04	3.35	.1411	-.32	1.74
-3.13	3.17	.1431	-.12	1.67
-3.02	3.24	.1353	-.17	1.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-9.64	3.60	.0294	-.21	2.47	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-9.72	-.22

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.11	3.42	-.4751	-.01	3.40	-.6908	-.0698	.0213	.0539	-4.75	3.17	.0848	.08	1.79
24	.23	3.04	-.4316	.01	3.22	-.6520	-.0284	.0257	.0161	-4.55	3.25	.0629	-.16	1.88
36	.34	3.70	-.5132	.01	3.52	-.7084	-.0061	-.0231	.0296	-4.57	3.08	.0630	.09	1.75
48	.45	3.53	-.5036	.02	3.41	-.6871	.0562	-.0501	-.0060	-4.41	3.11	.0311	-.02	1.80
60	.57	4.06	-.5668	.03	3.56	-.7147	-.0088	-.0168	.0193	-4.47	2.97	.0536	.04	1.73
72	.68	3.88	-.5391	.01	3.46	-.6935	.0674	-.0678	-.0131	-4.42	3.03	.0147	.04	1.78

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-10.89	3.55	-.0208	-.27	2.50	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.10	3.33	-.4705	-.00	3.57	-.7088	-.0302	-.0184	.0306
24	.22	3.19	-.4491	-.01	3.20	-.6353	.0264	-.0174	-.0142
36	.31	3.57	-.4994	.01	3.64	-.7177	-.0255	-.0237	.0326
48	.44	3.72	-.5167	-.00	3.43	-.6855	.0245	-.0285	.0085
60	.55	3.90	-.5385	-.02	3.63	-.7249	-.0110	.0049	.0184
72	.67	4.01	-.5395	-.03	3.52	-.6994	.0517	-.0552	-.0034

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-10.95	-.25

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-5.36	3.13	-.0287	.19	1.76
-5.30	3.17	-.0435	-.15	1.93
-5.30	3.08	-.0304	.19	1.73
-5.28	3.04	-.0337	-.06	1.82
-5.25	2.99	-.0157	-.13	1.72
-5.33	2.99	-.0556	-.02	1.78

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-11.79	3.72	.0281	-.27	2.51	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.12	3.39	-.4495	.03	3.61	-.7296	-.0089	.0057	.0016
24	.22	3.39	-.4467	.00	3.28	-.6611	.0086	-.0102	.0002
36	.35	3.73	-.4816	.03	3.69	-.7423	.0212	-.0319	-.0052
48	.49	3.95	-.4977	.00	3.79	-.7693	.0397	-.0396	-.0118
60	.61	4.10	-.5131	.00	3.88	-.7797	.0784	-.0706	-.0387
72	.76	4.30	-.5372	-.01	3.93	-.7876	.0257	-.0162	-.0271

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-11.80	-.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-5.91	3.33	.0474	-.12	1.72
-5.89	3.33	.0390	-.10	1.88
-5.95	3.26	.0281	.01	1.68
-6.02	3.23	.0225	-.04	1.80
-6.01	3.20	-.0120	-.04	1.69
-5.95	3.14	.0169	-.16	1.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12869) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMEER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1.4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-12.39	3.90	.0595	-.45	2.62	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.13	3.47	-.4325	.03	3.71	-.7130	.0257	-.0419	.0077
24	.23	3.43	-.4242	.00	3.26	-.6287	-.0088	-.0105	.0154
36	.36	3.84	-.4717	.02	3.75	-.7174	.0128	-.0211	-.0016
48	.49	4.02	-.4850	.01	3.66	-.6995	.0675	-.1039	-.0025
60	.64	4.21	-.4989	.02	3.78	-.7193	.0160	-.0177	-.0175
72	.78	4.37	-.5196	-.00	3.79	-.7169	.0643	-.0688	-.0308

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-12.32	-.48

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.34	3.51	.0867	.03	1.84
-6.35	3.53	.0866	-.05	2.04
-6.32	3.44	.0858	-.10	1.83
-6.35	3.41	.0482	.27	1.87
-6.40	3.38	.0727	-.15	1.82
-6.32	3.33	.0432	-.04	1.82

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12BFS) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-12.99	4.20	.0619	-.65	2.76	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.15	3.68	-.4298	.02	3.77	-.6817	-.0125	-.0297	.0198
24	.29	3.69	-.4308	.04	3.54	-.6406	-.0140	-.0587	.0433
36	.46	4.16	-.4797	.05	3.92	-.7125	.0090	-.0564	.0202
48	.62	4.30	-.4898	.05	3.78	-.6852	-.0080	-.0461	.0364
60	.80	4.43	-.5036	.04	4.04	-.7293	.0505	-.0410	-.0306
72	.93	4.63	-.5276	.03	3.92	-.7069	.0070	-.0078	-.0068

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-12.80	-.70

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.66	3.79	.0893	.08	2.02
-6.61	3.79	.0877	.38	2.11
-6.58	3.68	.0852	.16	1.93
-6.60	3.66	.0973	.17	2.01
-6.49	3.63	.0634	-.25	1.89
-6.41	3.57	.0925	-.26	1.95

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 30.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.32	4.65	.0753	-.93	2.66	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.18	-.96

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.17	3.95	-.4298	-.02	3.49	-.6519	.0247	-.0605	-.0040	-6.58	4.20	.0785	-.07	2.01
24	.30	3.94	-.4253	-.00	3.38	-.6310	-.0048	-.0258	-.0000	-6.56	4.21	.0898	-.20	2.06
36	.51	4.38	-.4687	.02	3.70	-.6954	.0204	-.0808	.0140	-6.54	4.11	.0851	.11	1.90
48	.67	4.46	-.4692	.03	3.66	-.6935	-.0471	-.0247	.0496	-6.60	4.10	.1307	.04	1.91
60	.86	4.84	-.5066	.01	3.88	-.7321	.0446	-.0701	-.0127	-6.47	4.00	.0801	-.16	1.81
72	1.00	4.88	-.5062	.00	3.80	-.7225	-.0341	.0233	.0045	-6.43	4.00	.1308	-.44	1.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - SEPTEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-13.57	5.13	-.0414	-1.02	3.02	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.20	4.28	-.4240	-.04	3.88	-.6404	-.1297	.0644	.0661
24	.40	4.17	-.4007	-.03	3.92	-.6483	-.1008	.0456	.0637
36	.63	4.68	-.4535	-.05	4.24	-.7037	-.1122	.0608	.0846
48	.82	4.67	-.4504	-.03	4.22	-.7006	-.0775	.0136	.0861
60	1.01	5.11	-.4916	-.08	4.28	-.7147	-.0936	.0440	.0833
72	1.17	5.06	-.4774	-.08	4.19	-.7069	-.0936	.0319	.0941

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-13.23	-1.05

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-6.79	4.64	-.0101	-.33	2.32
-6.93	4.70	-.0115	-.31	2.30
-6.69	4.55	.0156	-.35	2.14
-6.75	4.57	.0012	-.13	2.15
-6.64	4.46	.0114	-.33	2.11
-6.73	4.50	.0143	-.23	2.13

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9	1/56 - 12/70	0	90.0	-1.59	2.77	.2344	-.24	2.70	900
9	1/56 - 12/70	1	90.0	-2.26	5.65	.2675	.40	4.93	900
9	1/56 - 12/70	2	90.0	-.93	5.99	.2795	.42	4.77	900
9	1/56 - 12/70	3	90.0	-.01	6.01	.2608	.52	4.63	900
9	1/56 - 12/70	4	90.0	.59	6.01	.2604	.56	4.62	900
9	1/56 - 12/70	5	90.0	.89	6.21	.3041	.39	4.89	900
9	1/56 - 12/70	6	90.0	1.10	6.44	.3035	.20	5.28	900
9	1/56 - 12/70	7	90.0	1.54	6.94	.3467	.23	5.76	900
9	1/56 - 12/70	8	90.0	2.20	7.56	.3835	.11	6.33	900
9	1/56 - 12/70	9	90.0	3.10	8.17	.3868	.10	7.00	900
9	1/56 - 12/70	10	90.0	3.99	9.06	.3811	-.14	8.01	900
9	1/56 - 12/70	11	90.0	4.85	10.03	.3785	-.49	9.02	900
9	1/56 - 12/70	12	90.0	5.85	10.63	.3403	-1.09	9.93	900
9	1/56 - 12/70	13	90.0	5.96	10.90	.3121	-1.77	10.36	900
9	1/56 - 12/70	14	90.0	4.91	10.16	.2694	-2.46	9.48	900
9	1/56 - 12/70	15	90.0	2.68	8.57	.2226	-2.41	7.22	900
9	1/56 - 12/70	16	90.0	.23	6.62	.3031	-1.98	5.15	900
9	1/56 - 12/70	17	90.0	-1.81	5.38	.2206	-1.21	3.71	900
9	1/56 - 12/70	18	90.0	-3.89	4.43	.2028	-.75	3.01	900
9	1/56 - 12/70	19	90.0	-6.10	3.95	.1730	-.64	2.61	900
9	1/56 - 12/70	20	90.0	-8.07	3.89	.1293	-.45	2.42	900
9	1/56 - 12/70	21	90.0	-9.64	3.60	.0294	-.21	2.47	900
9	1/56 - 12/70	22	90.0	-10.69	3.55	-.0208	-.27	2.50	900
9	1/56 - 12/70	23	90.0	-11.79	3.72	.0281	-.27	2.51	900
9	1/56 - 12/70	24	90.0	-12.39	3.90	.0595	-.45	2.62	900
9	1/56 - 12/70	25	90.0	-12.99	4.20	.0619	-.65	2.76	900
9	1/56 - 12/70	26	90.0	-13.32	4.65	.0753	-.93	2.66	900
9	1/56 - 12/70	27	90.0	-13.57	5.13	-.0414	-1.02	3.02	900

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.16	3.18	.0349	-1.18	2.89	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.95	-1.34

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.02	2.78	-.4340	-.01	2.45	-.4243	-.0079	.1016	-.0994	-.50	2.84	.0439	-.62	2.60
24	.06	3.03	-.4714	-.02	2.96	-.5127	.0282	.1191	-.1421	-.48	2.77	.0330	-.64	2.45
36	.09	3.79	-.5915	-.04	3.46	-.6018	.0176	.0869	-.1154	-.52	2.54	.0361	-.60	2.29
48	.13	3.96	-.5761	-.06	3.74	-.6472	.0109	.0400	-.0656	-.56	2.49	.0357	-.57	2.20
60	.17	4.37	-.5774	-.08	3.93	-.6797	.0375	-.0058	-.0604	-.58	2.33	.0132	-.56	2.12
72	.21	4.33	-.5891	-.10	3.97	-.6857	.0347	-.0378	-.0248	-.59	2.36	.0157	-.55	2.10

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.02	6.02	.1913	-1.15	5.14	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	3.87	-.3949	-.04	3.79	-.3661	.1422	.1608	-.2379
24	.05	5.58	-.4458	-.11	5.03	-.4870	.1897	.1194	-.2908
36	.10	6.91	-.5525	-.16	6.12	-.5939	.1889	.0445	-.2619
48	.16	7.75	-.6160	-.20	6.72	-.6499	.1870	-.0199	-.2181
60	.20	8.22	-.6494	-.23	7.07	-.6819	.1838	-.0833	-.1612
72	.28	8.57	-.6706	-.29	7.06	-.6820	.1717	-.1044	-.1252

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.56	-1.42

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.90	5.61	.1933	-.86	4.65
-.98	5.24	.1840	-.77	4.35
-1.06	4.92	.1822	-.69	4.05
-1.11	4.70	.1874	-.64	3.87
-1.14	4.57	.1955	-.60	3.75
-1.14	4.46	.2110	-.60	3.76

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.46	6.20	.2327	-.21	4.89	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	4.18	-.3132	-.04	3.96	-.3901	.0998	.1122	-.1509
24	.04	5.66	-.4354	-.09	4.83	-.4816	.1778	.0638	-.2087
36	.07	6.91	-.5314	-.11	5.69	-.5670	.2057	.0097	-.2192
48	.14	7.77	-.5955	-.14	6.19	-.6173	.2225	-.0481	-.2070
60	.21	8.28	-.6175	-.16	6.67	-.6614	.2341	-.0931	-.1866
72	.27	8.60	-.6358	-.19	6.77	-.6684	.2318	-.1212	-.1633

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.90	-.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.13	5.84	.2564	.13	4.44
.12	5.52	.2523	.07	4.22
.12	5.21	.2527	.02	3.98
.13	5.00	.2471	-.03	3.82
.15	4.87	.2437	-.06	3.65
.17	4.79	.2527	-.09	3.63

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.36	6.33	.2111	.27	4.98	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	3.98	-.3054	-.07	3.82	-.3826	.1464	.1066	-.1839
24	.07	5.49	-.4215	-.13	4.99	-.5024	.1894	.0821	-.2374
36	.13	6.75	-.5175	-.15	5.82	-.5849	.2232	.0169	-.2438
48	.22	7.55	-.5658	-.17	6.30	-.6275	.2381	-.0370	-.2314
60	.29	8.09	-.5989	-.18	6.67	-.6518	.2680	-.0853	-.2252
72	.38	8.35	-.6147	-.21	6.94	-.6750	.2486	-.1056	-.1900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.74	.08

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.09	5.96	.2184	.75	4.53
1.11	5.65	.2135	.60	4.21
1.13	5.35	.2083	.45	3.97
1.19	5.18	.2011	.34	3.83
1.22	5.05	.1933	.28	3.75
1.27	4.99	.2081	.22	3.66

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.99	6.49	.2022	.38	5.19	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	4.08	-.3090	-.09	3.84	-.3700	.1025	.1394	-.1863
24	.10	5.54	-.4153	-.15	5.05	-.4892	.1837	.0893	-.2371
36	.17	6.65	-.5012	-.19	6.04	-.5812	.2210	.0233	-.2384
48	.26	7.36	-.5507	-.23	6.58	-.6196	.2529	-.0463	-.2243
60	.39	7.86	-.5321	-.22	6.95	-.6424	.2646	-.0804	-.2096
72	.53	8.25	-.5005	-.24	7.14	-.6574	.2635	-.0994	-.2009

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.35	.29

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.88	6.09	.2166	1.16	4.73
1.98	5.80	.2035	.88	4.42
2.00	5.55	.1980	.64	4.14
2.04	5.38	.1885	.45	4.03
2.11	5.26	.1918	.37	3.95
2.20	5.18	.1899	.31	3.89

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.67	6.83	.2566	.26	5.76	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.07	4.37	-.3205	-.11	4.24	-.3649	.1441	.1074	-.1936
24	.14	5.80	-.4218	-.17	5.68	-.4911	.2237	.0363	-.2279
36	.23	6.85	-.4978	-.21	6.62	-.5720	.2704	-.0326	-.2355
48	.34	7.58	-.5499	-.24	7.32	-.6159	.3010	-.0945	-.2314
60	.49	8.09	-.5802	-.26	7.74	-.6429	.2973	-.1235	-.2065
72	.66	8.43	-.5902	-.27	7.98	-.6605	.2924	-.1430	-.1897

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.05	.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.78	6.39	.2725	1.35	5.28
2.88	6.12	.2623	.93	4.94
2.90	5.88	.2567	.65	4.67
2.92	5.68	.2490	.44	4.50
2.98	5.55	.2616	.29	4.39
3.11	5.51	.2657	.20	4.31

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QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.41	7.41	.2589	.31	6.46	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.10	4.62	-.3093	-.10	4.87	-.3723	.1853	.0684	-.1706
24	.19	6.16	-.4118	-.16	6.41	-.4845	.2476	.0134	-.2179
36	.31	7.28	-.4845	-.20	7.53	-.5674	.2942	-.0589	-.2280
48	.46	8.03	-.5316	-.22	8.21	-.6092	.3284	-.1203	-.2277
60	.63	8.55	-.5576	-.24	8.64	-.6317	.3102	-.1201	-.2089
72	.81	8.92	-.5691	-.24	8.76	-.6403	.2904	-.1143	-.1939

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.80	.41

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.77	6.99	.2704	1.55	5.92
3.84	6.69	.2616	1.15	5.58
3.87	6.44	.2520	.78	5.27
3.91	6.26	.2416	.52	5.09
4.00	6.14	.2631	.45	4.98
4.15	6.09	.2780	.39	4.93

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12968) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9.43	8.40	.2499	.27	7.40	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.11	5.35	-.3243	-.07	5.60	-.3678	.1444	.0702	-.1460
24	.23	7.19	-.4334	-.13	7.55	-.4913	.2168	.0102	-.1894
36	.38	8.26	-.4968	-.18	8.72	-.5649	.2711	-.0662	-.1964
48	.57	8.89	-.5308	-.17	9.40	-.5959	.2849	-.0926	-.1946
60	.76	9.41	-.5542	-.17	9.81	-.6098	.2751	-.0913	-.1806
72	.95	9.95	-.5744	-.15	9.99	-.6227	.2677	-.0841	-.1841

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.82	.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.63	7.90	.2704	1.70	6.82
4.75	7.52	.2651	1.19	6.38
4.80	7.27	.2543	.76	6.07
4.88	7.11	.2571	.62	5.91
5.00	6.99	.2768	.57	5.83
5.18	6.87	.2862	.58	5.75

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.77	9.40	.2493	.37	8.53	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.13	5.64	-.3085	-.07	6.31	-.3524	.1720	.0380	-.1293
24	.26	7.66	-.4163	-.14	8.63	-.4822	.2360	-.0234	-.1744
36	.40	8.91	-.4835	-.19	9.95	-.5560	.2735	-.0751	-.1907
48	.62	9.76	-.5236	-.17	10.66	-.5853	.2844	-.0863	-.2005
60	.84	10.38	-.5516	-.14	11.12	-.5982	.2753	-.0825	-.1921
72	1.07	10.92	-.5690	-.10	11.42	-.6153	.2636	-.0876	-.1783

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.18	.58

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.77	8.91	.2639	1.90	7.93
5.89	8.51	.2548	1.29	7.43
5.93	8.20	.2479	.93	7.05
6.08	7.99	.2517	.89	6.88
6.20	7.83	.2692	.86	6.79
6.39	7.72	.2814	.75	6.69

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14.15	10.74	.2383	.55	10.00	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.13	6.22	-.2971	-.03	7.05	-.3314	.2008	.0178	-.1218
24	.25	8.55	-.4054	-.12	9.80	-.4663	.2641	-.0421	-.1667
36	.42	10.01	-.4734	-.16	11.42	-.5420	.2913	-.0850	-.1857
48	.67	11.02	-.5148	-.14	12.26	-.5728	.2978	-.1005	-.1890
60	.92	11.66	-.5426	-.11	12.88	-.5888	.2792	-.0925	-.1811
72	1.18	12.16	-.5557	-.03	13.29	-.6066	.2831	-.1104	-.1689

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.59	.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.98	10.23	.2485	2.19	9.39
7.09	9.79	.2399	1.56	8.80
7.14	9.44	.2332	1.21	8.37
7.29	9.20	.2372	1.07	8.16
7.41	9.01	.2526	1.04	8.04
7.60	8.93	.2585	.90	7.92

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
16.40	12.00	.2173	.77	11.85	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.85	1.08

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.16	6.66	-.2841	.02	7.94	-.3197	.1792	-.0020	-.0811	7.98	11.50	.2282	1.95	11.21
24	.30	9.15	-.3880	-.04	11.21	-.4566	.2419	-.0413	-.1346	8.16	11.05	.2229	1.78	10.51
36	.49	10.82	-.4598	-.10	13.16	-.5304	.2487	-.0606	-.1547	8.21	10.64	.2233	1.55	10.01
48	.76	12.03	-.5079	-.09	14.35	-.5702	.2398	-.0596	-.1595	8.37	10.32	.2342	1.50	9.69
60	1.03	12.88	-.5406	-.02	15.10	-.5849	.2326	-.0652	-.1502	8.50	10.09	.2464	1.34	9.57
72	1.32	13.52	-.5578	.02	15.43	-.5941	.2271	-.0670	-.1412	8.75	9.95	.2573	1.25	9.50

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.75	13.11	.1921	.67	13.39	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.19	6.98	-.2762	.04	8.53	-.3053	.1145	-.0051	-.0401
24	.37	9.62	-.3771	-.02	12.17	-.4375	.1719	-.0341	-.0847
36	.62	11.46	-.4478	-.05	14.51	-.5144	.1756	-.0495	-.0991
48	.95	12.78	-.4956	-.03	15.92	-.5564	.1800	-.0430	-.1154
60	1.25	13.78	-.5331	.05	16.99	-.5740	.1802	-.0418	-.1135
72	1.60	14.52	-.5537	.09	17.32	-.5836	.1840	-.0483	-.1123

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
19.12	.95

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.96	12.60	.2056	1.32	12.74
9.18	12.14	.2048	1.29	12.03
9.33	11.72	.2079	1.09	11.47
9.58	11.38	.2188	1.38	11.10
9.73	11.09	.2311	1.35	10.93
10.01	10.92	.2360	1.26	10.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.41	13.28	.2025	.46	14.12	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.22	6.79	-.2635	.05	8.13	-.2724	.1045	-.0219	-.0176
24	.41	9.37	-.3644	.06	11.94	-.4047	.1579	-.0426	-.0635
36	.65	11.27	-.4364	.04	14.51	-.4815	.1682	-.0566	-.0940
48	.99	12.56	-.4842	.05	16.23	-.5330	.1647	-.0457	-.0937
60	1.30	13.64	-.5228	.12	17.48	-.5596	.1667	-.0456	-.0938
72	1.65	14.45	-.5482	.16	18.08	-.5767	.1849	-.0522	-.1083

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
20.64	.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.86	12.81	.2148	.44	13.59
9.99	12.37	.2168	.82	12.91
10.11	11.94	.2193	.78	12.37
10.39	11.62	.2337	1.12	11.93
10.59	11.32	.2479	1.18	11.68
10.86	11.11	.2490	1.26	11.51

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.64	12.97	.2279	-.27	13.05	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.19	6.92	-.2777	.03	7.38	-.2669	.1298	-.0236	-.0346
24	.39	9.20	-.3715	.06	10.49	-.3813	.1861	-.0572	-.0707
36	.66	10.91	-.4390	.05	12.86	-.4557	.1904	-.0722	-.0826
48	1.00	12.17	-.4836	.08	14.53	-.5101	.2016	-.0728	-.0974
60	1.33	13.06	-.5120	.17	15.77	-.5378	.2196	-.0823	-.1052
72	1.66	13.85	-.5373	.22	16.44	-.5603	.2199	-.0862	-.1073

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
20.70	-.15

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.95	12.46	.2395	.25	12.57
10.02	12.04	.2401	.25	12.06
10.18	11.65	.2459	.19	11.61
10.49	11.35	.2561	.50	11.22
10.76	11.14	.2622	.61	10.99
11.01	10.93	.2691	.60	10.80

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
19.03	11.96	.2371	-.85	10.83	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.20	6.60	-.2838	.02	6.31	-.2759	.1279	.0150	-.0705
24	.44	8.74	-.3792	.03	8.63	-.3818	.1981	-.0254	-.1038
36	.68	10.33	-.4465	.02	10.53	-.4538	.2322	-.0552	-.1240
48	1.01	11.31	-.4889	.03	11.95	-.5028	.2412	-.0716	-.1301
60	1.26	12.15	-.5224	.09	12.93	-.5270	.2601	-.0884	-.1349
72	1.56	12.84	-.5464	.17	13.51	-.5503	.2497	-.0839	-.1347

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.90	-.77

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.61	11.46	.2518	1.10	10.39
9.63	11.06	.2533	.74	9.99
9.73	10.70	.2550	.55	9.63
9.84	10.43	.2601	.43	9.34
9.95	10.20	.2646	.36	9.19
10.19	10.02	.2755	.41	9.02

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.81	10.19	.2427	-.82	8.51	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.20	5.52	-.2775	.01	5.29	-.2927	.0800	.0722	-.0988
24	.45	7.33	-.3651	-.01	7.09	-.3942	.1683	.0354	-.1402
36	.67	8.79	-.4384	.05	8.51	-.4633	.2122	-.0094	-.1539
48	.94	9.72	-.4847	.05	9.55	-.5063	.2339	-.0382	-.1527
60	1.17	10.67	-.5302	.11	10.50	-.5420	.2493	-.0658	-.1484
72	1.44	11.19	-.5494	.16	10.99	-.5678	.2658	-.0937	-.1456

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
15.69	-.69

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.17	9.76	.2631	1.81	8.09
8.44	9.45	.2635	1.37	7.77
8.47	9.14	.2648	.89	7.50
8.50	8.90	.2712	.62	7.30
8.54	8.64	.2799	.40	7.12
8.68	8.51	.2790	.23	6.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.38	8.36	.2566	-.72	6.53	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.19	4.66	-.2834	-.01	4.38	-.3215	.1142	.0897	-.1229
24	.36	5.84	-.3533	.01	5.57	-.4083	.1997	.0472	-.1703
36	.61	7.05	-.4243	.02	6.79	-.4840	.2064	.0124	-.1608
48	.82	7.83	-.4630	.07	7.49	-.5140	.2271	-.0273	-.1547
60	1.06	8.49	-.4952	.10	8.23	-.5510	.2373	-.0548	-.1362
72	1.28	8.95	-.5161	.14	8.55	-.5672	.2551	-.0867	-.1338

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.33	-.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.05	7.98	.2809	1.60	6.12
6.26	7.78	.2736	1.26	5.89
6.25	7.55	.2670	.77	5.66
6.36	7.40	.2681	.44	5.56
6.44	7.26	.3032	.26	5.42
6.55	7.16	.2993	.09	5.36

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.85	7.02	.2867	-.39	4.76	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.16	4.29	-.2998	-.02	4.10	-.4233	.0426	.0791	-.0662
24	.33	4.87	-.3394	-.00	4.34	-.4368	.1594	.0650	-.1450
36	.48	5.82	-.4067	-.01	5.45	-.5424	.1624	.0276	-.1383
48	.67	6.39	-.4403	.04	5.73	-.5497	.2083	-.0182	-.1509
60	.82	7.01	-.4824	.05	6.32	-.6064	.2292	-.0723	-.1341
72	1.00	7.40	-.5066	.09	6.41	-.6018	.2629	-.1062	-.1409

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y
	6.84	-.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.62	6.69	.3351	.48	4.29
3.85	6.57	.3205	.65	4.23
3.85	6.39	.3396	.38	3.96
3.98	6.29	.3295	.24	3.95
3.98	6.15	.3418	.07	3.77
4.06	6.05	.3320	.01	3.79

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.96	5.84	.2876	-.41	3.65	930

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.00	-.42

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. P	R (XP,YP)	MEAN YP	S.D. YP
12	.13	4.01	-.3359	.01	3.67	-.4973	.1614	.0117	-.1106	1.64	5.49	.3239	.06	3.15
24	.27	4.18	-.3480	.03	3.60	-.4782	.1609	.0576	-.1439	1.75	5.45	.3256	.15	3.17
36	.39	5.23	-.4340	.02	4.54	-.5994	.2025	-.0184	-.1630	1.79	5.25	.3271	.01	2.90
48	.53	5.36	-.4448	.06	4.67	-.5978	.1941	-.0317	-.1421	1.82	5.22	.3358	-.03	2.91
60	.64	5.96	-.4901	.10	5.08	-.6464	.2190	-.0703	-.1512	1.88	5.09	.3389	-.05	2.77
72	.81	6.12	-.4951	.13	5.18	-.6489	.1954	-.0635	-.1270	1.96	5.07	.3587	-.06	2.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.12	5.00	.2016	-.45	3.11	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.15	3.89	-.3721	.03	3.88	-.6182	.0012	.0319	-.0108
24	.29	3.77	-.3505	.03	3.45	-.5408	.1669	-.0171	-.0852
36	.42	4.40	-.4100	.06	4.18	-.6498	.0618	-.0003	-.0260
48	.54	4.74	-.4366	.08	4.13	-.6216	.1465	-.0440	-.0598
60	.65	5.19	-.4822	.13	4.61	-.6970	.1285	-.0322	-.0722
72	.77	5.42	-.5095	.11	4.48	-.6684	.1926	-.0973	-.0859

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.06	-.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.17	4.64	.2840	-.22	2.44
.24	4.68	.2305	-.22	2.61
.29	4.56	.2903	-.21	2.36
.34	4.50	.2629	-.21	2.43
.40	4.38	.2856	-.20	2.22
.44	4.30	.2506	-.20	2.31

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.68	4.61	.1544	-.31	2.85	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.13	3.86	-.4044	-.02	3.38	-.5858	.0722	-.0187	-.0414
24	.23	3.59	-.3706	-.00	3.20	-.5522	.0583	-.0065	-.0332
36	.34	4.34	-.4485	.00	3.88	-.6706	.0743	-.0452	-.0343
48	.47	4.30	-.4359	.05	3.87	-.6485	.0915	-.0655	-.0266
60	.59	4.78	-.4859	.05	4.27	-.6954	.1045	-.0596	-.0391
72	.71	4.82	-.4909	.08	4.17	-.6733	.0987	-.0885	-.0118

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-1.78	-.29

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.76	4.22	.1886	-.21	2.31
-.72	4.28	.1881	-.21	2.38
-.67	4.12	.2013	-.17	2.11
-.63	4.15	.1964	-.13	2.17
-.57	4.03	.2049	-.15	2.05
-.52	4.01	.2107	-.10	2.11

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.65	4.32	.1694	-.39	2.70	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.12	3.74	-.4250	.00	3.62	-.6710	.1344	-.1261	-.0381
24	.25	3.45	-.3807	-.01	3.04	-.5606	.1046	-.0718	-.0348
36	.36	4.14	-.4508	-.02	3.76	-.6923	.1290	-.1091	-.0459
48	.51	4.11	-.4303	-.01	3.65	-.6581	.1605	-.1158	-.0459
60	.60	4.47	-.4636	.02	3.98	-.7122	.1726	-.1381	-.0521
72	.75	4.59	-.4613	.02	3.98	-.7137	.1714	-.1294	-.0554

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.77	-.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.24	3.91	.1917	-.09	2.00
-1.21	3.99	.1892	-.14	2.24
-1.18	3.85	.1998	-.13	1.95
-1.17	3.89	.1984	-.15	2.03
-1.14	3.82	.2014	-.13	1.89
-1.12	3.83	.2038	-.15	1.89

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.26	4.36	.0642	-.52	2.81	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.13	3.84	-.4129	.01	3.57	-.6370	-.0397	-.0222	.0487
24	.29	3.41	-.3691	.00	3.24	-.5723	.0088	.0189	-.0042
36	.43	3.95	-.4236	.01	3.77	-.6709	.0195	-.0528	.0364
48	.57	4.05	-.4127	-.01	3.73	-.6635	.0697	-.0662	.0160
60	.68	4.45	-.4581	.02	4.14	-.7328	.0675	-.0839	.0222
72	.80	4.58	-.4652	.02	4.00	-.7062	.0749	-.0964	.0246

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.42	-.62

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.53	3.97	.1081	-.07	2.16
-1.51	4.05	.0927	-.28	2.30
-1.49	3.94	.1072	-.09	2.08
-1.51	3.96	.0977	-.16	2.10
-1.44	3.87	.1072	-.11	1.91
-1.42	3.85	.0980	-.09	1.99

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)
XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.68	4.63	.0639	-.50	2.75	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.13	3.75	-.3928	.01	3.57	-.6430	.0715	-.1169	.0169
24	.31	3.75	-.3821	.00	3.25	-.5850	.0284	-.0438	.0129
36	.47	4.15	-.4113	-.00	3.85	-.6934	.0779	-.1256	.0249
48	.60	4.38	-.4216	.00	3.87	-.6968	.1192	-.1222	-.0094
60	.77	4.77	-.4551	.03	4.04	-.7226	.1371	-.1383	-.0056
72	.89	4.93	-.4633	.03	4.09	-.7267	.1736	-.1468	-.0357

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.68	-.55

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.76	4.26	.0666	-.02	2.10
-1.72	4.28	.0816	-.15	2.23
-1.70	4.22	.0788	-.03	1.97
-1.69	4.20	.0628	-.12	1.97
-1.63	4.12	.0680	-.12	1.90
-1.60	4.10	.0465	-.17	1.89

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.72	4.86	.0535	-.46	2.78	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.15	3.60	-.3572	.00	3.51	-.6332	.0012	-.0410	.0252
24	.34	3.54	-.3370	.02	3.36	-.6021	.0089	-.0334	.0180
36	.50	4.20	-.3930	.03	3.92	-.7016	.0630	-.1123	.0270
48	.66	4.45	-.3965	.06	3.92	-.6979	.0809	-.1102	.0192
60	.81	4.88	-.4296	.07	4.12	-.7331	.1061	-.1312	.0198
72	.97	5.02	-.4369	.08	4.12	-.7267	.1178	-.1386	.0158

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.80	-.45

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.83	4.54	.0764	-.11	2.15
-1.81	4.58	.0731	-.14	2.21
-1.78	4.46	.0699	-.03	1.97
-1.80	4.46	.0693	-.06	1.98
-1.75	4.38	.0733	-.06	1.88
-1.71	4.36	.0675	-.06	1.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-3.39	5.21	.0845	-.55	2.92	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.18	3.68	-.3289	.00	3.54	-.6085	.0030	-.0481	.0276
24	.38	3.82	-.3205	.00	3.45	-.5877	.0336	-.0512	.0301
36	.57	4.42	-.3591	.04	4.04	-.6836	.0720	-.1150	.0504
48	.76	4.69	-.3661	.07	4.04	-.6770	.1031	-.1038	.0332
60	.94	5.06	-.3841	.10	4.39	-.7284	.1083	-.1268	.0530
72	1.12	5.32	-.4042	.09	4.39	-.7173	.1015	-.1077	.0507

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-3.37	-.51

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.75	4.92	.1151	-.16	2.31
-1.77	4.93	.1204	-.20	2.38
-1.75	4.85	.1405	-.11	2.12
-1.73	4.84	.1383	-.18	2.15
-1.71	4.79	.1661	-.13	2.00
-1.63	4.74	.1681	-.17	2.03

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-2.75	5.83	.1502	-.64	3.06	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.20	3.66	-.2972	.05	3.83	-.6292	.0367	-.0809	.0204
24	.44	3.86	-.2898	.04	3.68	-.5992	.0582	-.0324	-.0098
36	.62	4.45	-.3238	.06	4.24	-.6846	.1230	-.1141	.0054
48	.83	4.88	-.3107	.09	4.22	-.6700	.1396	-.1130	.0088
60	1.05	5.30	-.3598	.11	4.53	-.7150	.1492	-.1157	-.0037
72	1.27	5.55	-.3594	.10	4.42	-.6837	.1910	-.1322	-.0358

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.56	-.71

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-1.47	5.56	.1972	-.13	2.37
-1.44	5.58	.1917	-.29	2.45
-1.42	5.51	.2094	-.20	2.23
-1.40	5.47	.2145	-.21	2.27
-1.34	5.43	.2215	-.23	2.14
-1.27	5.41	.1847	-.26	2.23

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - OCTOBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
-1.96	6.16	.1192	-.76	3.23	930

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.24	3.99	-.3011	.05	4.06	-.6321	.1126	-.1089	-.0104
24	.46	4.07	-.2694	.06	3.78	-.5869	.0816	-.0625	.0073
36	.70	4.67	-.2923	.08	4.51	-.6927	.1171	-.1207	.0128
48	.94	5.11	-.3133	.09	4.44	-.6643	.1076	-.0969	.0226
60	1.16	5.71	-.2497	.12	4.72	-.7075	.1264	-.1387	.0155
72	1.39	6.01	-.3603	.08	4.67	-.6[illegible]	.1252	-.1154	-.0073

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-2.33	-.89

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
-.78	5.88	.1371	-.22	2.50
-.85	5.93	.1534	-.26	2.61
-.83	5.89	.1691	-.20	2.32
-.77	5.84	.1781	-.24	2.41
-.69	5.76	.1708	-.18	2.27
-.61	5.74	.1532	-.24	2.34

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10	1/56 - 12/70	0	90.0	-1.16	3.18	.0349	-1.18	2.89	930
10	1/56 - 12/70	1	90.0	-2.02	6.02	.1913	-1.15	5.14	930
10	1/56 - 12/70	2	90.0	.46	6.20	.2327	-.21	4.89	930
10	1/56 - 12/70	3	90.0	2.36	6.33	.2111	.27	4.98	930
10	1/56 - 12/70	4	90.0	3.99	6.49	.2022	.38	5.19	930
10	1/56 - 12/70	5	90.0	5.67	6.83	.2566	.26	5.76	930
10	1/56 - 12/70	6	90.0	7.41	7.41	.2589	.31	6.46	930
10	1/56 - 12/70	7	90.0	9.43	8.40	.2499	.27	7.40	930
10	1/56 - 12/70	8	90.0	11.77	9.40	.2493	.37	8.53	930
10	1/56 - 12/70	9	90.0	14.15	10.74	.2389	.55	10.00	930
10	1/56 - 12/70	10	90.0	16.40	12.00	.2173	.77	11.85	930
10	1/56 - 12/70	11	90.0	18.75	13.11	.1921	.67	13.39	930
10	1/56 - 12/70	12	90.0	20.41	13.28	.2025	.46	14.12	930
10	1/56 - 12/70	13	90.0	20.64	12.97	.2279	-.27	13.05	930
10	1/56 - 12/70	14	90.0	19.03	11.96	.2371	-.85	10.83	930
10	1/56 - 12/70	15	90.0	15.81	10.19	.2427	-.82	8.51	930
10	1/56 - 12/70	16	90.0	11.38	8.36	.2566	-.72	6.53	930
10	1/56 - 12/70	17	90.0	6.85	7.02	.2867	-.39	4.76	930
10	1/56 - 12/70	18	90.0	2.96	5.84	.2876	-.41	3.65	930
10	1/56 - 12/70	19	90.0	.12	5.00	.2016	-.45	3.11	930
10	1/56 - 12/70	20	90.0	-1.68	4.61	.1544	-.31	2.85	930
10	1/56 - 12/70	21	90.0	-2.65	4.32	.1694	-.39	2.70	930
10	1/56 - 12/70	22	90.0	-3.26	4.36	.0642	-.52	2.81	930
10	1/56 - 12/70	23	90.0	-3.68	4.63	.0639	-.50	2.75	930
10	1/56 - 12/70	24	90.0	-3.72	4.86	.0535	-.46	2.78	930
10	1/56 - 12/70	25	90.0	-3.39	5.21	.0845	-.55	2.92	930
10	1/56 - 12/70	26	90.0	-2.75	5.83	.1502	-.64	3.06	930
10	1/56 - 12/70	27	90.0	-1.96	6.16	.1192	-.76	3.23	930

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.04	2.90	-.2098	-1.11	2.82	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.10	-1.16

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.05	2.81	-.4816	-.02	2.80	-.4966	-.2218	.3119	-.0860	.36	2.48	-.2033	-.63	2.38
24	.05	3.17	-.5371	-.05	3.41	-.6068	-.2731	.3505	-.0219	.30	2.40	-.1802	-.63	2.17
36	.05	3.78	-.6412	-.07	3.84	-.6809	-.2839	.3061	.0732	.22	2.20	-.1528	-.61	2.04
48	.03	3.88	-.6579	-.07	4.01	-.7115	-.2839	.2715	.1166	.17	2.18	-.1519	-.59	1.97
60	.02	4.14	-.7094	-.07	4.04	-.7144	-.2709	.2005	.1796	.11	2.05	-.1551	-.57	1.97
72	.02	4.03	-.6937	-.05	4.00	-.7029	-.2734	.1590	.1941	.08	2.09	-.1690	-.56	2.00

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.18	6.87	.1475	-.66	5.34	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.08	4.92	-.3565	-.03	4.37	-.4123	.0162	.3528	-.3299
24	.07	6.96	-.5039	-.07	6.10	-.5715	.0312	.2523	-.2692
36	.00	8.05	-.5843	-.10	7.00	-.6561	.0316	.1473	-.1839
48	-.06	8.60	-.6274	-.13	7.49	-.7024	.0456	.0420	-.1162
60	-.09	8.83	-.6484	-.12	7.58	-.7107	.0513	-.0293	-.0653
72	-.10	8.92	-.6590	-.08	7.41	-.6949	.0479	-.0678	-.0250

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
-.32	-.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.75	6.02	.1677	-.44	4.47
.57	5.67	.1994	-.39	4.13
.44	5.46	.2123	-.36	3.93
.36	5.31	.2044	-.35	3.78
.31	5.22	.1976	-.33	3.75
.28	5.17	.1987	-.31	3.83

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
2.84	7.32	.1798	-.18	5.34	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.11	4.97	-.3390	-.00	4.61	-.4433	.0689	.2834	-.2843
24	.18	6.89	-.4664	-.06	6.09	-.5764	.0791	.1993	-.2606
36	.14	8.11	-.5541	-.11	6.99	-.6645	.0753	.1066	-.1994
48	.11	8.81	-.6115	-.14	7.42	-.7080	.0894	.0064	-.1410
60	.07	9.21	-.6475	-.14	7.54	-.7260	.0914	-.0679	-.0910
72	.08	9.32	-.6576	-.13	7.42	-.7184	.0967	-.1168	-.0557

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
2.34	-.32

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.92	6.62	.2037	.75	4.48
1.88	6.27	.2091	.37	4.16
1.80	5.99	.2215	.16	3.90
1.74	5.76	.2209	.01	3.75
1.68	5.58	.2153	-.09	3.67
1.67	5.52	.2078	-.15	3.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.47	7.69	.1970	-.17	5.66	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.84	-.35

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.12	5.17	-.3276	.00	4.87	-.4292	.0758	.2714	-.2627	3.43	7.03	.2294	1.59	4.81
24	.19	7.03	-.4475	-.04	6.51	-.5746	.0583	.2109	-.2257	3.33	6.70	.2553	.90	4.42
36	.21	8.34	-.5358	-.10	7.32	-.6494	.0645	.1013	-.1645	3.26	6.42	.2660	.40	4.22
48	.19	9.01	-.5893	-.13	7.67	-.6848	.0807	.0040	-.1130	3.17	6.19	.2637	.11	4.11
60	.21	9.40	-.6224	-.15	7.89	-.6967	.0810	-.0057	-.0823	3.13	6.01	.2614	-.04	4.05
72	.23	9.71	-.6447	-.14	7.71	-.7021	.1292	-.0961	-.0986	3.13	5.88	.2284	-.08	4.03

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.82	8.00	.2164	-.25	6.31	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.13	5.17	-.3113	-.01	5.41	-.4237	.0381	.2664	-.2280
24	.22	7.27	-.4427	-.04	7.22	-.5684	.0689	.1871	-.2123
36	.29	8.71	-.5353	-.09	8.08	-.6407	.0949	.0732	-.1712
48	.32	9.58	-.5939	-.10	8.50	-.6851	.1020	-.0149	-.1202
60	.33	10.08	-.6291	-.15	8.62	-.7040	.1264	-.0722	-.1105
72	.32	10.40	-.6540	-.13	8.75	-.7146	.1573	-.1135	-.1149

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.26	-.48

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.62	7.40	.2580	2.45	5.43
4.58	7.02	.2780	1.37	4.99
4.51	6.69	.2799	.63	4.77
4.43	6.42	.2855	.20	4.58
4.39	6.21	.2703	-.00	4.48
4.34	6.05	.2524	-.08	4.41

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.40	8.73	.2569	-.27	7.00	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.15	5.85	-.3183	.02	5.71	-.4035	.1100	.2231	-.2489
24	.28	8.13	-.4456	.01	7.61	-.5422	.1336	.1492	-.2434
36	.37	9.60	-.5330	-.07	8.58	-.6146	.1632	.0403	-.2104
48	.41	10.64	-.5946	-.06	9.17	-.6695	.1670	-.0355	-.1687
60	.43	11.21	-.6316	-.09	9.38	-.6932	.1822	-.0961	-.1452
72	.42	11.58	-.6571	-.09	9.49	-.7031	.2073	-.1444	-.1369

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.95	-.63

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.30	8.06	.2914	3.26	6.12
6.17	7.65	.3076	1.95	5.67
6.01	7.31	.3076	1.04	5.43
5.88	7.00	.3185	.52	5.17
5.78	6.77	.3141	.20	5.04
5.68	6.58	.3015	.02	4.98

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.12	9.62	.3025	-.23	7.95	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
12.63	-.57

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.15	6.45	-.3256	.02	6.06	-.3748	.2052	.1543	-.2666	8.05	8.88	.3238	3.82	7.13
24	.31	8.97	-.4523	-.02	8.25	-.5183	.2286	.0763	-.2690	7.78	8.42	.3344	2.32	6.61
36	.42	10.46	-.5320	-.09	9.28	-.5890	.2322	-.0038	-.2396	7.52	8.07	.3420	1.34	6.33
48	.47	11.64	-.5959	-.09	9.90	-.6377	.2373	-.0718	-.2122	7.34	7.70	.3481	.73	6.09
60	.48	12.29	-.6345	-.12	10.35	-.6725	.2415	-.1255	-.1870	7.18	7.43	.3502	.32	5.88
72	.49	12.71	-.6618	-.14	10.56	-.6873	.2616	-.1766	-.1746	7.04	7.21	.3392	.02	5.78

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.89	10.26	.3124	-.27	9.12	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.19	6.40	-.2938	-.02	6.84	-.3746	.1902	.1369	-.2221
24	.37	9.25	-.4285	-.05	9.18	-.5092	.2392	.0487	-.2433
36	.48	11.02	-.5162	-.10	10.40	-.5815	.2512	-.0155	-.2412
48	.59	12.32	-.5803	-.12	11.08	-.6311	.2583	-.0702	-.2332
60	.63	13.12	-.6225	-.17	11.62	-.6690	.2623	-.1222	-.2124
72	.65	13.63	-.6524	-.19	11.96	-.6885	.2741	-.1692	-.1955

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
15.42	-.61

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
9.68	9.65	.3339	4.74	8.23
9.43	9.15	.3399	2.72	7.69
9.19	8.70	.3460	1.73	7.32
9.05	8.30	.3490	1.09	7.02
8.87	8.01	.3501	.56	6.76
8.70	7.77	.3467	.16	6.61

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
18.90	11.18	.3210	-.44	10.47	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.20	7.10	-.2941	-.04	7.69	-.3681	.1979	.1032	-.2000
24	.41	10.08	-.4212	-.07	10.35	-.5007	.2548	.0239	-.2309
36	.56	11.97	-.5058	-.09	11.64	-.5669	.2766	-.0405	-.2384
48	.69	13.33	-.5668	-.12	12.43	-.6143	.2780	-.0815	-.2370
60	.77	14.15	-.6068	-.18	13.08	-.6557	.2950	-.1325	-.2325
72	.79	14.77	-.6395	-.23	13.61	-.6829	.3011	-.1745	-.2187

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
18.31	-.85

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.52	10.56	.3411	4.90	9.55
11.32	10.04	.3455	3.00	8.91
11.08	9.58	.3457	1.92	8.53
10.93	9.17	.3485	1.29	8.20
10.76	8.87	.3427	.78	7.88
10.55	8.59	.3411	.32	7.64

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
21.89	12.13	.3635	-.27	11.81	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.22	7.57	-.2884	-.07	8.23	-.3558	.2575	.0632	-.1983
24	.47	10.83	-.4172	-.08	11.27	-.4895	.3317	-.0198	-.2558
36	.66	12.83	-.4958	-.11	12.71	-.5555	.3232	-.0590	-.2624
48	.81	14.13	-.5500	-.13	13.53	-.5987	.3091	-.0888	-.2540
60	.92	15.09	-.5903	-.17	14.45	-.6452	.3291	-.1391	-.2522
72	.95	15.65	-.6177	-.23	15.10	-.6747	.3334	-.1740	-.2447

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
21.28	-.74

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
13.44	11.51	.3804	5.56	10.87
13.28	10.92	.3771	3.74	10.14
13.01	10.45	.3857	2.64	9.70
12.78	10.07	.3965	1.89	9.38
12.61	9.76	.3964	1.35	8.97
12.40	9.52	.3964	.89	8.69

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
24.84	13.28	.3938	-.31	13.35	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.24	8.32	-.2888	-.09	8.75	-.3354	.2551	.0246	-.1662
24	.53	11.67	-.4091	-.10	12.13	-.4649	.3369	-.0433	-.2344
36	.72	13.80	-.4842	-.12	13.91	-.5377	.3271	-.0751	-.2423
48	.90	15.23	-.5352	-.11	15.02	-.5880	.3146	-.1053	-.2333
60	1.00	16.22	-.5759	-.19	16.03	-.6364	.3410	-.1542	-.2417
72	1.04	16.81	-.6033	-.23	16.80	-.6669	.3610	-.1907	-.2541

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
24.12	-.86

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.91	12.65	.4120	4.63	12.49
14.94	12.04	.4111	3.56	11.71
14.70	11.56	.4247	2.65	11.17
14.51	11.18	.4391	1.90	10.74
14.30	10.83	.4385	1.41	10.26
14.14	10.57	.4285	1.08	9.93

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
27.83	13.80	.3865	-.45	14.85	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.27	8.39	-.2697	-.14	9.17	-.3149	.2553	-.0044	-.1328
24	.53	11.88	-.3906	-.15	12.87	-.4415	.3119	-.0438	-.2007
36	.70	14.12	-.4712	-.17	15.03	-.5248	.3115	-.0727	-.2183
48	.85	15.49	-.5197	-.18	16.25	-.5759	.3021	-.0930	-.2156
60	.95	16.47	-.5577	-.29	17.42	-.6270	.3138	-.1332	-.2175
72	.97	17.12	-.5867	-.36	18.35	-.6611	.3445	-.1697	-.2422

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
26.93	-1.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.87	13.26	.4004	3.91	14.05
16.77	12.65	.4061	3.51	13.24
16.45	12.13	.4204	2.83	12.56
16.26	11.76	.4332	2.14	12.08
16.04	11.44	.4425	1.65	11.53
15.90	11.16	.4292	1.44	11.11

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
29.90	14.03	.4052	-.68	15.47	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.22	8.37	-.2711	-.12	9.35	-.3110	.2722	-.0267	-.1261
24	.53	12.03	-.3935	-.18	13.16	-.4352	.3426	-.0699	-.2064
36	.73	14.23	-.4713	-.18	15.45	-.5203	.3419	-.0884	-.2328
48	.88	15.49	-.5171	-.16	16.77	-.5729	.3523	-.1141	-.2536
60	1.00	16.60	-.5580	-.26	17.96	-.6254	.3567	-.1362	-.2663
72	1.04	17.27	-.5859	-.32	19.13	-.6633	.3779	-.1752	-.2822

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.02	-1.43

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.66	13.48	.4178	3.36	14.67
17.86	12.85	.4194	3.29	13.87
17.62	12.33	.4342	3.13	13.13
17.54	11.96	.4362	2.85	12.60
17.40	11.60	.4446	2.58	11.98
17.25	11.33	.4331	2.15	11.51

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
30.24	13.15	.3793	-.46	14.16	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.25	8.14	-.2918	-.07	8.02	-.2892	.2454	.0005	-.1333
24	.49	11.58	-.4147	-.12	11.20	-.4062	.2990	-.0390	-.1912
36	.68	13.42	-.4826	-.13	13.39	-.4981	.3121	-.0637	-.2225
48	.81	14.72	-.5360	-.10	14.85	-.5599	.3293	-.0954	-.2462
60	.90	15.55	-.5731	-.19	16.08	-.6215	.3347	-.1242	-.2547
72	.98	16.15	-.5983	-.26	17.23	-.6606	.3577	-.1681	-.2650

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
29.30	-1.64

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.48	12.55	.3957	4.24	13.51
17.54	11.93	.4046	3.56	12.88
17.53	11.47	.4128	3.46	12.20
17.36	11.06	.4143	3.15	11.65
17.14	10.74	.4200	2.81	11.02
17.00	10.51	.4078	2.27	10.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
28.33	11.84	.3742	-.65	11.90	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.24	7.49	-.2827	-.07	7.01	-.3018	.1550	.0501	-.1291
24	.46	10.04	-.3825	-.12	9.55	-.4127	.2293	.0177	-.1848
36	.65	11.91	-.4603	-.14	11.26	-.4980	.2891	-.0466	-.2212
48	.78	13.21	-.5148	-.12	12.46	-.5640	.2952	-.0692	-.2406
60	.98	14.20	-.5596	-.18	13.41	-.6222	.3076	-.0972	-.2595
72	1.08	14.88	-.5933	-.28	14.39	-.6634	.3178	-.1295	-.2673

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
27.26	-1.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.03	11.31	.3988	4.35	11.28
17.16	10.87	.4075	3.84	10.75
17.03	10.45	.4026	2.91	10.25
16.92	10.09	.4092	2.65	9.75
16.83	9.75	.4106	2.37	9.24
16.64	9.48	.4080	1.91	8.54

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
24.47	9.90	.3551	-.42	9.68	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.19	6.39	-.2969	-.03	5.96	-.3185	.1295	.1004	-.1722
24	.37	8.37	-.3811	-.04	7.88	-.4226	.2382	.0454	-.2215
36	.54	9.85	-.4536	-.11	9.32	-.5083	.2780	-.0112	-.2432
48	.68	10.83	-.5047	-.12	10.30	-.5727	.2826	-.0478	-.2517
60	.83	11.64	-.5494	-.21	11.18	-.6359	.2948	-.0791	-.2699
72	.92	12.28	-.5887	-.28	11.97	-.6774	.3075	-.1169	-.2767

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
23.46	-1.14

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.65	9.36	.3836	5.27	9.07
15.15	9.05	.3821	4.34	8.65
14.97	8.74	.3806	3.35	8.23
14.77	8.47	.3814	2.69	7.85
14.67	8.19	.3785	2.36	7.39
14.43	7.94	.3736	1.87	7.06

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.01	8.48	.3104	-.42	8.07	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.18	5.70	-.3204	-.02	5.00	-.3143	.1932	.0701	-.1979
24	.39	7.20	-.4078	-.02	6.62	-.4205	.2344	.0497	-.2316
36	.52	8.32	-.4726	-.07	7.94	-.5150	.2721	.0121	-.2635
48	.63	9.16	-.5253	-.08	8.77	-.5786	.2769	-.0396	-.2506
60	.73	9.77	-.5662	-.13	9.52	-.6381	.2885	-.0794	-.2619
72	.85	10.15	-.5959	-.16	10.10	-.6769	.3090	-.1278	-.2610

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
19.02	-1.04

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12.04	7.95	.3253	3.76	7.58
11.99	7.65	.3327	3.43	7.22
11.99	7.38	.3283	3.08	6.80
11.71	7.16	.3308	2.24	6.50
11.57	6.93	.3206	1.82	6.15
11.43	6.78	.3083	1.38	5.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
15.06	7.43	.2043	-.43	6.74	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.18	5.29	-.3380	.00	4.78	-.3513	.0070	.1431	-.1334
24	.34	6.48	-.4195	-.01	5.98	-.4456	.0762	.1260	-.1706
36	.52	7.23	-.4677	-.05	6.99	-.5271	.1320	.0702	-.1689
48	.67	7.95	-.5145	-.06	7.67	-.5871	.1829	.0143	-.1834
60	.83	8.42	-.5490	-.10	8.35	-.6405	.2013	-.0273	-.1853
72	1.01	8.71	-.5724	-.13	8.76	-.6738	.2070	-.0615	-.1783

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.27	-.83

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.56	6.92	.2396	2.60	6.24
8.67	6.66	.2452	2.33	5.94
8.75	6.51	.2430	1.81	5.65
8.80	6.33	.2305	1.44	5.39
8.79	6.18	.2208	1.10	5.13
8.77	6.07	.2128	.78	4.95

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/55 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
10.01	6.51	.1792	-.41	5.13	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.17	4.95	-.3691	.01	4.01	-.3758	.1047	.0879	-.1427
24	.32	5.59	-.4115	-.01	4.53	-.4308	.1367	.0887	-.1743
36	.45	6.36	-.4721	-.02	5.29	-.5077	.1335	.0885	-.1881
48	.65	6.87	-.5104	-.07	5.86	-.5719	.1795	.0398	-.1931
60	.78	7.42	-.5573	-.12	6.28	-.6169	.1718	.0170	-.1796
72	.91	7.66	-.5806	-.15	6.68	-.6562	.1891	-.0324	-.1725

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.54	-.78

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.20	6.02	.2019	1.10	4.71
6.36	5.89	.2019	1.12	4.57
6.36	5.68	.2095	1.02	4.35
6.41	5.56	.2013	.83	4.14
6.37	5.38	.2106	.62	3.99
6.36	5.29	.1943	.40	3.84

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.44	5.67	.1853	-.17	4.09	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.08	4.62	-.3963	-.02	3.65	-.4411	.0811	.0211	-.0791
24	.21	4.89	-.4190	-.04	3.70	-.4488	.1841	-.0190	-.1309
36	.31	5.56	-.4806	-.07	4.44	-.5446	.1433	-.0150	-.1206
48	.44	5.94	-.5142	-.11	4.65	-.5833	.1651	-.0458	-.1309
60	.56	6.40	-.5553	-.16	5.02	-.6313	.1815	-.0664	-.1367
72	.70	6.64	-.5800	-.18	5.19	-.6495	.1964	-.0934	-.1431

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.16	-.44

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.54	5.20	.2103	.35	3.66
3.65	5.14	.1888	.36	3.64
3.64	4.97	.2041	.30	3.42
3.69	4.86	.1938	.21	3.31
3.73	4.71	.1950	.16	3.16
3.77	4.62	.1812	.09	3.10

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.19	5.32	.1609	-.12	3.42	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.07	4.41	-.4134	.02	3.56	-.5198	.1142	-.0424	-.0592
24	.20	4.57	-.4173	-.00	3.40	-.4953	.1584	-.0427	-.0814
36	.30	5.20	-.4816	.00	3.99	-.5848	.1507	-.0378	-.0928
48	.39	5.58	-.5092	-.06	4.02	-.6020	.1976	-.0813	-.1119
60	.49	5.80	-.5304	-.05	4.37	-.6714	.1823	-.0836	-.1098
72	.59	6.08	-.5528	-.09	4.36	-.6714	.1973	-.0765	-.1315

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.05	-.27

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.22	4.84	.1763	.07	2.92
2.34	4.83	.1717	.12	2.97
2.37	4.66	.1843	.14	2.77
2.41	4.58	.1642	.08	2.73
2.48	4.51	.1716	.08	2.53
2.54	4.43	.1679	.09	2.53

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.37	5.53	.2279	-.02	3.10	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.06	4.27	-.3801	.03	3.33	-.5232	.0746	-.0171	-.0228
24	.13	4.35	-.3809	.04	3.10	-.4864	.1736	-.0780	-.0423
36	.23	5.09	-.4505	.05	3.65	-.5809	.1471	-.0888	-.0361
48	.33	5.26	-.4652	.05	3.68	-.5924	.1821	-.1104	-.0591
60	.45	5.71	-.5064	.02	4.05	-.6559	.1934	-.1213	-.0819
72	.49	5.81	-.5176	.02	4.07	-.6540	.2212	-.1220	-.1126

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.93	-.86

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.46	5.11	.2847	.47	2.64
1.47	5.11	.2597	.44	2.71
1.50	4.93	.2828	.42	2.52
1.55	4.89	.2688	.42	2.50
1.63	4.77	.2720	.43	2.34
1.67	4.73	.2565	.46	2.34

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.16	5.95	.2188	.07	3.27	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.11	4.09	-.3285	.02	3.47	-.5220	.0910	-.0442	-.0259
24	.19	4.52	-.3577	.02	3.21	-.4850	.0870	-.0159	-.0392
36	.28	5.15	-.4161	.03	3.84	-.5838	.1380	-.0561	-.0598
48	.38	5.39	-.4374	.03	4.06	-.6192	.2032	-.1122	-.0881
60	.48	5.89	-.4776	.00	4.28	-.6536	.2252	-.1380	-.1048
72	.57	6.11	-.4905	.01	4.35	-.6656	.2479	-.1493	-.1238

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.19	.10

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
1.69	5.62	.2562	.04	2.79
1.75	5.56	.2563	.09	2.86
1.77	5.41	.2629	.08	2.65
1.81	5.35	.2411	.06	2.57
1.85	5.23	.2326	.04	2.47
1.91	5.18	.2217	.05	2.44

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
3.72	6.43	.2058	.34	3.21	900

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
3.80	.36

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	.08	4.06	-.3141	.00	3.41	-.5334	.0512	-.0325	-.0097	1.87	6.11	.2479	.14	2.72
24	.17	4.43	-.3311	.02	3.23	-.5108	.1259	-.0520	-.0522	1.98	6.07	.2259	.20	2.76
36	.26	5.12	-.3781	.04	3.88	-.6104	.1286	-.0639	-.0565	2.04	5.95	.2413	.21	2.54
48	.38	5.48	-.3994	.05	3.99	-.6302	.2324	-.1390	-.1034	2.12	5.90	.2018	.20	2.49
60	.47	5.92	-.4255	.04	4.34	-.6869	.2498	-.1645	-.1267	2.19	5.82	.1853	.19	2.33
72	.56	6.25	-.4502	.04	4.44	-.7094	.2466	-.1544	-.1485	2.24	5.74	.1743	.21	2.26

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
4.81	6.99	.1953	.45	3.31	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.08	4.25	-.3009	-.00	3.46	-.5190	.0288	-.0079	-.0099
24	.17	4.70	-.3252	.00	3.51	-.5263	.0718	-.0457	-.0227
36	.30	5.32	-.3635	.03	4.18	-.6262	.0869	-.0231	-.0581
48	.41	5.75	-.3841	.04	4.23	-.6356	.1183	-.0305	-.0821
60	.52	6.26	-.4128	.05	4.56	-.6896	.1596	-.0758	-.0982
72	.63	6.64	-.4371	.06	4.61	-.7036	.1955	-.1038	-.1204

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
4.84	.47

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.45	6.66	.2359	.24	2.83
2.55	6.61	.2248	.19	2.81
2.63	6.51	.2347	.32	2.58
2.74	6.44	.2252	.35	2.55
2.82	6.36	.2150	.32	2.39
2.88	6.28	.1960	.32	2.35

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
6.38	7.76	.2359	.37	3.77	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.09	4.32	-.2709	.03	3.94	-.5169	.0876	-.0581	-.0159
24	.19	4.80	-.2937	.04	4.03	-.5297	.0914	-.0701	-.0318
36	.29	5.49	-.3372	.05	4.61	-.6062	.1695	-.1168	-.0658
48	.42	6.15	-.3695	.04	4.87	-.6436	.1580	-.1179	-.0671
60	.53	6.57	-.3960	.06	5.17	-.6865	.1924	-.1361	-.0951
72	.66	6.87	-.4147	.06	5.16	-.6896	.2279	-.1561	-.1256

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
6.31	.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.35	7.47	.2721	.11	3.23
3.47	7.42	.2624	.08	3.20
3.52	7.31	.2555	.13	3.00
3.64	7.21	.2627	.13	2.88
3.69	7.12	.2532	.18	2.74
3.77	7.06	.2274	.20	2.73

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.91	8.25	.2332	.31	3.94	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.11	4.44	-.2529	.02	3.69	-.4577	.0310	-.0284	-.0047
24	.17	5.20	-.2968	.05	3.94	-.4896	.0746	-.0534	-.0354
36	.29	5.88	-.3402	.06	4.56	-.5698	.1131	-.0876	-.0526
48	.41	6.50	-.3661	.05	4.77	-.6002	.1672	-.1102	-.0902
60	.51	7.09	-.3991	.09	5.25	-.6575	.1569	-.0879	-.1063
72	.61	7.55	-.4198	.12	5.36	-.6764	.1689	-.1017	-.1170

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.84	.33

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.27	7.98	.2645	.06	3.50
4.30	7.88	.2533	.08	3.44
4.31	7.76	.2530	.06	3.24
4.49	7.67	.2360	.12	3.15
4.55	7.56	.2454	.26	2.97
4.64	7.48	.2385	.25	2.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - NOVEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9.42	8.88	.1622	.52	4.04	900

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	4.50	-.2400	.03	3.69	-.4502	.0111	-.0064	-.0138
24	.09	5.39	-.2832	.04	3.92	-.4711	.0531	-.0185	-.0518
36	.18	6.36	-.3360	.05	4.54	-.5493	.0874	-.0479	-.0650
48	.26	7.13	-.3760	.06	4.80	-.5882	.1006	-.0445	-.0810
60	.38	7.72	-.4019	.11	5.22	-.6402	.1226	-.0442	-.1000
72	.47	8.21	-.4228	.19	5.27	-.6550	.1277	-.0261	-.1252

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.57	.98

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.88	8.62	.1795	.04	3.61
4.95	8.51	.1652	.11	3.56
4.99	8.36	.1608	.07	3.38
5.03	8.22	.1603	.15	3.27
5.16	8.12	.1592	.26	3.10
5.25	8.02	.1528	.39	3.04

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11	1/56 - 12/70	0	90.0	.04	2.90	-.2098	-1.11	2.82	900
11	1/56 - 12/70	1	90.0	.18	6.87	.1475	-.66	5.34	900
11	1/56 - 12/70	2	90.0	2.84	7.32	.1798	-.18	5.34	900
11	1/56 - 12/70	3	90.0	5.47	7.69	.1970	-.17	5.66	900
11	1/56 - 12/70	4	90.0	7.82	8.00	.2164	-.25	6.31	900
11	1/56 - 12/70	5	90.0	10.40	8.73	.2569	-.27	7.00	900
11	1/56 - 12/70	6	90.0	13.12	9.62	.3025	-.23	7.95	900
11	1/56 - 12/70	7	90.0	15.89	10.26	.3124	-.27	9.12	900
11	1/56 - 12/70	8	90.0	18.90	11.18	.3210	-.44	10.47	900
11	1/56 - 12/70	9	90.0	21.89	12.13	.3635	-.27	11.81	900
11	1/56 - 12/70	10	90.0	24.84	13.28	.3938	-.31	13.35	900
11	1/56 - 12/70	11	90.0	27.83	13.80	.3865	-.45	14.85	900
11	1/56 - 12/70	12	90.0	29.90	14.03	.4052	-.68	15.47	900
11	1/56 - 12/70	13	90.0	30.24	13.15	.3793	-.46	14.16	900
11	1/56 - 12/70	14	90.0	28.33	11.84	.3742	-.65	11.90	900
11	1/56 - 12/70	15	90.0	24.47	9.90	.3551	-.42	9.68	900
11	1/56 - 12/70	16	90.0	20.01	8.48	.3104	-.42	8.07	900
11	1/56 - 12/70	17	90.0	15.06	7.43	.2043	-.43	6.74	900
11	1/56 - 12/70	18	90.0	10.01	6.51	.1792	-.41	5.13	900
11	1/56 - 12/70	19	90.0	6.44	5.67	.1853	-.17	4.09	900
11	1/56 - 12/70	20	90.0	4.19	5.32	.1609	-.12	3.42	900
11	1/56 - 12/70	21	90.0	3.37	5.53	.2279	-.02	3.10	900
11	1/56 - 12/70	22	90.0	3.16	5.95	.2188	.07	3.27	900
11	1/56 - 12/70	23	90.0	3.72	6.43	.2058	.34	3.21	900
11	1/56 - 12/70	24	90.0	4.81	6.99	.1953	.45	3.31	900
11	1/56 - 12/70	25	90.0	6.38	7.76	.2359	.37	3.77	900
11	1/56 - 12/70	26	90.0	7.91	8.25	.2332	.31	3.94	900
11	1/56 - 12/70	27	90.0	9.42	8.88	.1622	.52	4.04	900

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 0
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
.60	2.67	-.2884	-.93	2.96	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	2.59	-.4858	.07	2.88	-.4825	-.3159	.3570	-.0647
24	-.07	3.03	-.5736	.11	3.64	-.6074	-.3511	.4004	.0245
36	-.05	3.52	-.6657	.14	4.05	-.6817	-.3533	.3417	.1340
48	-.02	3.50	-.6600	.15	4.19	-.7028	-.3323	.2745	.1789
60	-.01	3.64	-.6856	.15	4.24	-.7088	-.3228	.2348	.2167
72	-.01	3.50	-.6565	.15	4.20	-.6968	-.2797	.1835	.1998

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
.56	-1.06

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.50	2.25	-.2858	-.29	2.52
.42	2.13	-.2496	-.29	2.28
.37	1.97	-.2354	-.30	2.14
.34	2.01	-.2536	-.32	2.10
.32	1.95	-.2545	-.33	2.09
.31	2.02	-.2895	-.33	2.13

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 1
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
1.58	6.73	-.0011	.27	5.88	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	5.09	-.3645	.12	5.16	-.4370	.0162	.4173	-.3665
24	.03	7.50	-.5594	.27	7.17	-.6067	.0010	.3068	-.2770
36	.14	8.62	-.6383	.35	8.17	-.6939	-.0012	.1701	-.1503
48	.24	9.05	-.6712	.37	8.41	-.7160	-.0029	.0728	-.0625
60	.26	9.23	-.6840	.41	8.43	-.7167	.0000	.0291	-.0242
72	.31	9.28	-.6833	.43	8.44	-.7119	-.0029	.0072	.0071

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
1.11	.21

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
.97	5.72	-.0008	.78	4.66
1.05	5.26	.0048	.56	4.31
1.12	5.08	.0052	.45	4.11
1.16	4.97	.0033	.39	4.08
1.16	4.90	.0030	.39	4.09
1.18	4.91	.0147	.38	4.13

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 2
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
5.03	7.15	.0328	.52	5.56	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	5.32	-.3810	.06	4.93	-.4338	.1209	.3421	-.3776
24	.00	7.55	-.5340	.19	6.70	-.5965	.0850	.2624	-.3067
36	.11	8.77	-.6153	.27	7.64	-.6836	.0551	.1561	-.1964
48	.20	9.26	-.6493	.29	7.89	-.7026	.0425	.0622	-.1042
60	.27	9.40	-.6585	.31	7.95	-.7030	.0354	.0179	-.0535
72	.34	9.41	-.6587	.35	7.93	-.6927	.0381	-.0094	-.0236

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

	GIVEN X	GIVEN Y
-	4.58	.71

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
2.61	6.16	.0046	2.10	4.49
2.67	5.75	.0169	1.32	4.10
2.76	5.51	.0295	.85	3.91
2.82	5.41	.0357	.56	3.92
2.86	5.38	.0436	.44	3.94
2.91	5.38	.0510	.39	4.01

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 3
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.37	7.51	.0932	.38	5.93	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.02	5.31	-.3605	.08	5.50	-.4562	.1514	.2753	-.3199
24	.00	7.31	-.4934	.19	7.14	-.5928	.1035	.2052	-.2639
36	.10	8.52	-.5700	.31	7.97	-.6611	.1026	.0950	-.1924
48	.20	9.09	-.6067	.34	8.22	-.6817	.0906	.0201	-.1248
60	.28	9.30	-.6225	.39	8.22	-.6789	.0597	-.0091	-.0669
72	.35	9.29	-.6215	.46	8.27	-.6766	.0757	-.0309	-.0594

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.89	.66

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.58	6.71	.0783	3.18	4.85
4.45	6.33	.0974	1.86	4.50
4.51	6.09	.0954	1.10	4.34
4.54	5.94	.0995	.64	4.31
4.55	5.87	.1174	.41	4.35
4.59	5.88	.1138	.38	4.36

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 4
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.71	8.06	.1565	.70	6.67	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.02	5.62	-.3569	.09	6.06	-.4473	.1422	.2266	-.2717
24	.02	7.61	-.4768	.17	7.85	-.5819	.1194	.1647	-.2417
36	.09	8.80	-.5467	.31	8.69	-.6413	.1324	.0639	-.1915
48	.18	9.33	-.5773	.35	9.13	-.6720	.1214	.0071	-.1417
60	.24	9.65	-.5969	.41	9.23	-.6778	.1088	-.0297	-.1036
72	.24	9.71	-.5990	.48	9.29	-.6794	.1300	-.0634	-.1005

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.19	1.04

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.20	7.31	.1687	4.12	5.63
6.16	6.92	.1829	2.57	5.19
6.23	6.68	.1808	1.60	5.02
6.25	6.56	.1869	1.06	4.90
6.26	6.46	.1911	.72	4.89
6.33	6.45	.1757	.61	4.89

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 5
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14.54	8.83	.1726	1.16	7.71	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	8.15	-.3579	.09	7.09	-.4544	.0944	.2272	-.2445
24	.00	8.33	-.4794	.17	9.06	-.5796	.1325	.1249	-.2275
36	.09	9.60	-.5460	.33	10.02	-.6395	.1445	.0502	-.1950
48	.18	10.20	-.5756	.37	10.50	-.6675	.1305	-.0050	-.1432
60	.24	10.68	-.6006	.46	10.55	-.6703	.1123	-.0383	-.1019
72	.34	10.84	-.6092	.54	10.48	-.6635	.1134	-.0578	-.0885

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.07	1.65

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.30	8.03	.1980	5.16	6.54
7.48	7.61	.1956	3.07	6.09
7.61	7.32	.1968	2.13	5.82
7.66	7.19	.2049	1.40	5.71
7.69	7.05	.2134	.95	5.72
7.74	7.00	.2099	.79	5.77

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 6
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
17.52	9.42	.1966	1.21	8.47	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.02	6.19	-.3341	.10	7.88	-.4623	.0894	.1903	-.1955
24	.03	8.49	-.4529	.21	9.92	-.5795	.1517	.0842	-.2004
36	.12	9.85	-.5222	.37	11.01	-.6388	.1704	-.0001	-.1689
48	.23	10.54	-.5563	.44	11.47	-.6613	.1580	-.0491	-.1259
60	.32	10.97	-.5769	.53	11.45	-.6582	.1359	-.0504	-.1083
72	.40	11.17	-.5871	.66	11.52	-.6585	.1286	-.0591	-.0936

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
17.13	1.80

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
8.84	8.74	.2263	5.76	7.25
9.11	8.31	.2208	3.40	6.74
9.15	8.00	.2228	2.12	6.45
9.16	7.82	.2316	1.31	6.34
9.22	7.69	.2407	1.10	6.37
9.26	7.62	.2463	.98	6.37

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 7
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
20.50	10.52	.2218	1.49	9.32	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	9.88	-.3373	.12	8.42	-.4492	.1407	.1216	-.1847
24	-.01	9.45	-.4563	.22	10.67	-.5630	.1888	.0294	-.1880
36	.06	10.97	-.5245	.38	11.91	-.6215	.2021	-.0472	-.1618
48	.12	11.80	-.5606	.47	12.38	-.6430	.2002	-.0839	-.1402
60	.20	12.28	-.5836	.57	12.51	-.6465	.1867	-.0839	-.1328
72	.27	12.55	-.5962	.72	12.72	-.6543	.1616	-.0723	-.1198

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
20.22	2.13

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.31	9.80	.2427	5.61	8.14
10.48	9.30	.2432	3.32	7.59
10.50	8.94	.2438	2.02	7.26
10.52	8.71	.2473	1.41	7.12
10.54	8.54	.2543	1.31	7.10
10.58	8.44	.2692	1.31	7.04

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 8
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
23.56	11.75	.2809	1.85	10.26	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.09	7.34	-.3260	.12	8.91	-.4350	.1727	.0902	-.1841
24	-.10	10.20	-.4500	.25	11.56	-.5581	.2318	-.0237	-.1845
36	-.05	11.90	-.5170	.38	12.92	-.6192	.2746	-.1092	-.1867
48	-.02	12.90	-.5546	.49	13.47	-.6392	.2813	-.1412	-.1787
60	.02	13.48	-.5789	.56	13.69	-.6487	.2678	-.1442	-.1738
72	.11	13.88	-.5971	.70	13.85	-.6559	.2448	-.1326	-.1662

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
23.35	2.56

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.75	11.00	.3030	6.13	9.08
11.74	10.45	.3055	3.28	8.44
11.82	10.04	.2930	2.07	8.03
11.85	9.77	.2941	1.60	7.88
11.87	9.58	.2985	1.43	7.80
11.88	9.42	.3116	1.44	7.74

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 9
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
26.78	13.34	.3083	2.12	11.53	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.08	8.18	-.3205	.10	9.61	-.4183	.2334	.0055	-.1596
24	-.11	11.31	-.4412	.23	12.63	-.5428	.2616	-.0775	-.1700
36	-.10	13.14	-.5085	.36	14.38	-.6137	.2819	-.1439	-.1692
48	-.11	14.37	-.5514	.46	15.11	-.6393	.2958	-.1757	-.1723
60	-.11	15.13	-.5804	.52	15.38	-.6517	.2821	-.1708	-.1765
72	-.07	15.57	-.5984	.65	15.55	-.6582	.2500	-.1480	-.1693

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
26.59	2.93

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
13.36	12.58	.3201	4.73	10.40
13.16	11.95	.3247	2.64	9.65
13.10	11.48	.3234	1.58	9.09
13.12	11.13	.3204	1.23	8.86
13.13	10.86	.3252	1.23	8.74
13.15	10.68	.3428	1.35	8.67

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 10
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
29.88	14.63	.3070	2.30	13.01	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.09	8.77	-.3158	.12	10.33	-.3950	.1957	-.0279	-.1070
24	-.15	12.15	-.4353	.27	13.79	-.5272	.2433	-.1071	-.1247
36	-.13	14.27	-.5081	.40	15.75	-.5967	.2799	-.1651	-.1421
48	-.20	15.63	-.5534	.45	16.53	-.6194	.2764	-.1712	-.1499
60	-.20	16.55	-.5829	.52	17.03	-.6392	.2511	-.1476	-.1566
72	-.20	17.20	-.6057	.63	17.15	-.6438	.2401	-.1417	-.1612

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
28.84	3.09

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
14.89	13.86	.3223	3.00	11.91
14.79	13.17	.3274	1.58	11.05
14.79	12.60	.3229	1.02	10.44
14.82	12.18	.3275	1.01	10.21
14.97	11.89	.3431	1.35	10.00
14.99	11.64	.3465	1.39	9.95

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 11
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
32.49	15.08	.3057	2.35	14.06	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.10	8.83	-.3156	.19	10.68	-.3816	.1695	-.0575	-.0643
24	-.15	12.38	-.4338	.35	14.54	-.5166	.2304	-.1222	-.0971
36	-.17	14.40	-.4986	.45	16.61	-.5823	.2753	-.1773	-.1186
48	-.23	15.81	-.5429	.50	17.44	-.6040	.2812	-.1907	-.1321
60	-.23	16.90	-.5787	.59	17.93	-.6219	.2544	-.1724	-.1349
72	-.22	17.84	-.6092	.73	18.23	-.6341	.2389	-.1481	-.1549

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
32.38	3.07

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
15.03	14.31	.3232	1.28	13.00
15.28	13.59	.3294	.86	12.04
15.35	13.07	.3237	.48	11.43
15.45	12.66	.3206	.45	11.21
15.58	12.30	.3344	.73	11.01
15.75	11.96	.3417	1.29	10.88

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 12
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
35.01	15.16	.2937	2.69	14.62	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.05	8.76	-.3078	.19	10.09	-.3421	.1646	-.0530	-.0547
24	-.10	12.52	-.4359	.37	14.28	-.4836	.2442	-.1265	-.0938
36	-.08	14.73	-.5050	.48	16.65	-.5628	.2674	-.1649	-.1156
48	-.12	16.14	-.5511	.53	17.75	-.5976	.2759	-.1832	-.1310
60	-.11	17.30	-.5867	.65	18.40	-.6183	.2649	-.1700	-.1447
72	-.07	18.37	-.6184	.79	18.73	-.6327	.2566	-.1461	-.1707

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
34.84	3.46

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.45	14.43	.3088	1.27	13.74
16.48	13.65	.3106	.80	12.80
16.72	13.08	.3103	.70	12.09
16.77	12.65	.3070	.64	11.72
16.98	12.29	.3152	1.12	11.49
17.26	11.91	.3218	1.85	11.32

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12866) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 13
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
35.94	14.09	.3166	3.00	13.54	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.06	8.23	-.3030	.12	8.72	-.3190	.1748	-.0179	-.0937
24	-.07	11.44	-.4226	.24	12.37	-.4497	.2557	-.1052	-.1208
36	-.06	13.66	-.5018	.38	14.56	-.5284	.2863	-.1628	-.1360
48	-.05	15.05	-.5514	.42	15.80	-.5722	.3085	-.1958	-.1560
60	-.04	16.07	-.5855	.51	16.73	-.6053	.2996	-.1936	-.1667
72	-.01	16.76	-.6099	.66	17.13	-.6251	.2801	-.1722	-.1749

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
35.61	3.72

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
17.63	13.41	.3304	3.47	12.83
17.47	12.77	.3291	1.72	12.10
17.41	12.19	.3253	.93	11.50
17.41	11.75	.3167	.71	11.10
17.57	11.42	.3231	1.03	10.78
17.70	11.17	.3379	1.57	10.57

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 14
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
34.50	12.85	.3365	2.70	11.17	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.06	7.45	-.3108	.08	7.27	-.3186	.1422	.0238	-.1130
24	-.08	10.55	-.4346	.19	10.03	-.4355	.2577	-.0644	-.1628
36	-.09	12.60	-.5158	.31	11.68	-.5079	.3128	-.1387	-.1871
48	-.07	13.93	-.5700	.39	12.70	-.5496	.3149	-.1689	-.1889
60	-.12	14.86	-.6059	.46	13.36	-.5802	.3207	-.1851	-.1994
72	-.10	15.58	-.6342	.62	13.91	-.6088	.2951	-.1691	-.1990

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
34.20	3.40

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
16.30	12.18	.3586	4.64	10.56
16.71	11.56	.3536	2.95	10.04
16.67	11.01	.3413	1.85	9.62
16.54	10.56	.3425	1.37	9.33
16.55	10.23	.3417	1.30	9.10
16.63	9.94	.3620	1.61	8.86

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 15
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
31.00	11.28	.3111	2.32	9.41	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.03	6.90	-.3145	.02	6.10	-.3071	.1541	.0471	-.1347
24	-.07	9.29	-.4329	.12	8.33	-.4225	.2295	-.0345	-.1603
36	-.07	10.93	-.5073	.23	9.73	-.4921	.2907	-.1057	-.1811
48	-.03	12.21	-.5624	.32	10.63	-.5353	.3060	-.1486	-.1798
60	-.01	13.29	-.6078	.42	11.17	-.5668	.3036	-.1616	-.1859
72	.04	14.00	-.6373	.55	11.62	-.5949	.2763	-.1416	-.1884

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
30.72	3.06

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
15.38	10.66	.3331	4.87	8.91
15.11	10.14	.3314	2.92	8.51
15.11	9.71	.3212	2.02	8.18
15.07	9.32	.3198	1.41	7.95
15.16	8.95	.3242	1.30	7.75
15.31	8.69	.3448	1.60	7.56

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 16
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
26.50	9.52	.2693	2.01	8.39	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.02	6.19	-.3291	.03	5.66	-.3194	.0752	.0872	-.1238
24	.01	8.02	-.4255	.12	7.50	-.4232	.1831	-.0041	-.1456
36	.04	9.54	-.5054	.21	8.59	-.4840	.2162	-.0500	-.1601
48	.06	10.62	-.5621	.28	9.42	-.5338	.2262	-.0778	-.1661
60	.07	11.43	-.6031	.33	9.82	-.5594	.2316	-.1005	-.1618
72	.09	12.14	-.6362	.44	10.19	-.5831	.2222	-.0962	-.1675

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
26.24	2.71

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
13.09	8.94	.3005	4.68	7.89
13.44	8.59	.2921	2.82	7.57
13.45	8.20	.2909	2.12	7.32
13.43	7.86	.2930	1.77	7.08
13.43	7.59	.2971	1.45	6.95
13.53	7.34	.3078	1.54	6.81

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 17
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
21.64	8.35	.2719	1.53	7.49	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	5.67	-.3451	-.00	4.97	-.3162	.1545	.0688	-.1671
24	.04	7.35	-.4452	.08	6.53	-.4116	.2310	.0108	-.2070
36	.04	8.70	-.5261	.16	7.60	-.4776	.2543	-.0294	-.2257
48	.05	9.61	-.5834	.20	8.37	-.5266	.2394	-.0537	-.2109
60	.01	10.36	-.6251	.24	8.98	-.5691	.2311	-.0686	-.2018
72	-.01	10.73	-.6449	.32	9.39	-.6000	.2131	-.0818	-.1775

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
21.38	2.12

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
10.94	7.78	.2938	3.86	7.05
11.18	7.42	.2874	2.94	6.78
11.16	7.05	.2848	2.37	6.54
11.02	6.75	.2945	1.87	6.34
11.01	6.50	.3063	1.64	6.14
10.99	6.37	.3194	1.37	5.98

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 18
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
16.24	7.33	.2434	1.01	6.13	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.01	5.62	-.3837	-.01	4.22	-.3447	.0286	.1130	-.1546
24	-.02	6.68	-.4596	.04	5.28	-.4231	.1377	.0534	-.1898
36	-.01	7.39	-.5087	.10	6.19	-.4878	.1680	.0206	-.1903
48	-.05	8.10	-.5566	.14	6.77	-.5332	.1835	-.0140	-.1891
60	-.07	8.57	-.5867	.17	7.26	-.5752	.1987	-.0504	-.1785
72	-.08	9.00	-.6144	.23	7.54	-.6035	.2030	-.0680	-.1757

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
16.16	1.57

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.83	6.69	.2789	2.38	5.70
8.12	6.45	.2688	1.92	5.51
8.18	6.27	.2712	1.69	5.31
8.17	6.06	.2702	1.37	5.16
8.18	5.92	.2694	1.09	5.0[illegible]
8.18	5.77	.2719	.97	4.87

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 19
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.16	6.84	.2763	.58	4.85	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	5.38	-.3991	.03	4.03	-.4232	.0774	.0602	-.1306
24	-.02	5.86	-.4302	.04	4.43	-.4557	.0952	.0694	-.1581
36	-.02	6.71	-.4883	.08	5.12	-.5220	.1685	.0397	-.2048
48	-.03	7.10	-.5157	.11	5.30	-.5381	.1786	.0055	-.1883
60	-.06	7.60	-.5502	.16	5.83	-.5923	.1703	-.0043	-.1806
72	-.06	7.89	-.5705	.22	5.87	-.6022	.1682	-.0126	-.1764

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X			GIVEN Y	
MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
11.21			1.02	
5.42	6.23	.3134	1.01	4.38
5.49	6.12	.3183	1.14	4.29
5.66	5.91	.3144	1.16	4.09
5.65	5.82	.3168	.92	4.06
5.65	5.68	.3328	.86	3.88
5.65	5.59	.3385	.80	3.85

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 20
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.36	6.57	.2056	.32	3.95	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	5.20	-.3978	.00	4.02	-.5099	.0342	.0585	-.0788
24	-.01	5.86	-.4462	.01	4.06	-.5087	.0217	.0803	-.0856
36	-.04	6.46	-.4638	.02	4.66	-.5779	.0503	.0603	-.0923
48	-.06	6.97	-.5262	.05	4.62	-.5735	.0545	.0579	-.1098
60	-.10	7.17	-.5432	.07	4.99	-.6167	.0747	.0494	-.1073
72	-.11	7.46	-.5676	.09	5.01	-.6210	.0913	.0248	-.1103

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
8.33	.67

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.13	6.01	.2493	.46	3.38
4.12	5.86	.2654	.50	3.38
4.16	5.71	.2776	.46	3.20
4.16	5.56	.2787	.47	3.21
4.15	5.50	.2918	.47	3.09
4.14	5.39	.2857	.40	3.08

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 21
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.37	6.52	.2894	.30	3.71	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.00	5.14	-.3974	-.04	3.92	-.5365	.1411	-.0509	-.0809
24	.01	5.66	-.4312	-.06	3.85	-.5196	.1971	-.0211	-.1469
36	-.05	6.16	-.4677	-.05	4.28	-.5768	.2230	-.0613	-.1559
48	-.13	6.58	-.4982	-.09	4.48	-.6003	.2247	-.0719	-.1559
60	-.22	7.05	-.5310	-.09	4.64	-.6199	.2249	-.0559	-.1784
72	-.24	7.53	-.5683	-.10	4.73	-.6340	.2404	-.0867	-.1810

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.19	.68

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.75	5.98	.3306	.07	3.13
3.83	5.87	.3228	.32	3.15
3.82	5.75	.3205	.24	3.02
3.79	5.64	.3282	.19	2.96
3.76	5.51	.3368	.25	2.89
3.74	5.35	.3338	.16	2.86

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 22
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
7.33	6.41	.2682	.10	3.33	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	-.04	4.69	-.3694	-.03	3.39	-.5140	.0653	-.0007	-.0456
24	-.07	5.06	-.3962	-.05	3.38	-.5093	.1295	-.0228	-.0799
36	-.13	5.60	-.4297	-.05	3.82	-.5696	.1679	-.0624	-.0908
48	-.18	6.08	-.4681	-.08	3.99	-.5884	.1763	-.0443	-.1178
60	-.24	6.53	-.4997	-.08	4.18	-.6183	.1835	-.0663	-.1142
72	-.32	7.00	-.5352	-.10	4.28	-.6327	.2465	-.1064	-.1584

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.00	.36

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
3.77	5.96	.3225	.07	2.86
3.79	5.88	.3099	.10	2.86
3.84	5.79	.3111	.04	2.74
3.81	5.66	.3179	.12	2.69
3.79	5.55	.3252	.06	2.61
3.76	5.41	.2976	.06	2.58

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12368) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 23
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
8.23	7.02	.1909	.18	3.50	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	4.83	-.3358	-.01	3.84	-.5420	.1368	-.0466	-.0487
24	.01	5.27	-.3663	-.04	3.67	-.5074	.1528	-.0138	-.0731
36	-.06	6.03	-.4184	-.08	4.23	-.5880	.1402	-.0352	-.0654
48	-.13	6.59	-.4520	-.10	4.21	-.5764	.1859	-.0721	-.0707
60	-.26	6.91	-.4702	-.11	4.67	-.6454	.2035	-.0861	-.0875
72	-.36	7.52	-.5102	-.12	4.78	-.6593	.2498	-.1018	-.1336

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
7.85	.42

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
4.41	6.61	.2196	.13	2.94
4.42	6.53	.2214	.29	3.01
4.38	6.38	.2349	.16	2.82
4.38	6.26	.2281	.09	2.86
4.35	6.20	.2315	.11	2.67
4.33	6.04	.2092	.17	2.62

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 24
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
9.97	7.88	.1924	.48	3.58	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.04	5.46	-.3395	.00	3.75	-.5231	.1862	-.0585	-.0838
24	.01	5.99	-.3625	-.01	3.78	-.5267	.2146	-.0740	-.0920
36	-.06	6.59	-.3982	-.04	4.17	-.5826	.2038	-.0746	-.0953
48	-.17	7.34	-.4383	-.07	4.38	-.6087	.2271	-.1123	-.1048
60	-.30	7.92	-.4705	-.10	4.71	-.6529	.2183	-.1325	-.0964
72	-.41	8.31	-.4884	-.13	4.76	-.6541	.2563	-.1391	-.1273

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
9.64	.67

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
5.30	7.41	.2019	.40	3.05
5.41	7.34	.1996	.37	3.04
5.37	7.23	.2073	.37	2.90
5.36	7.08	.1963	.24	2.84
5.31	6.95	.2008	.15	2.71
5.32	6.88	.1866	.21	2.70

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 25
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
11.89	8.68	.1841	.65	3.92	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.01	5.67	-.3257	-.01	3.96	-.5099	.1119	-.0452	-.0442
24	-.05	6.30	-.3537	-.03	4.08	-.5214	.2213	-.0546	-.1088
36	-.11	7.13	-.3919	-.05	4.74	-.6065	.2021	-.0983	-.0821
48	-.25	7.65	-.4105	-.07	4.83	-.6142	.2354	-.1213	-.1110
60	-.36	8.31	-.4419	-.09	5.16	-.6588	.2149	-.1350	-.0983
72	-.49	8.82	-.4606	-.11	5.29	-.6715	.2260	-.1305	-.1135

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
11.52	.77

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
6.15	8.21	.2034	.35	3.37
6.31	8.11	.1866	.70	3.33
6.34	7.99	.1967	.40	3.11
6.43	7.91	.1743	.38	3.09
6.41	7.79	.1811	.26	2.95
6.45	7.70	.1790	.33	2.90

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 26
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
13.42	9.54	.1154	.85	4.21	924

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
13.03	.89

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)	MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
12	-.00	5.76	-.3001	-.02	4.34	-.5187	.0477	-.0107	-.0116	6.95	9.10	.1393	.52	3.60
24	-.01	6.54	-.3335	-.01	4.13	-.4941	.0975	-.0392	-.0141	7.08	8.99	.1361	.47	3.66
36	-.06	7.48	-.3744	-.01	4.96	-.5924	.1179	-.0426	-.0382	7.17	8.84	.1380	.59	3.39
48	-.17	7.94	-.3897	-.02	5.03	-.6007	.1270	-.0463	-.0487	7.24	8.78	.1330	.60	3.36
60	-.30	8.76	-.4266	-.06	5.44	-.6533	.1378	-.0380	-.0749	7.24	8.62	.1297	.70	3.18
72	-.43	9.27	-.4484	-.10	5.45	-.6532	.1457	-.0323	-.0823	7.22	8.52	.1330	.73	3.18

QUADRAVARIATE AND CONDITIONAL BIVARIATE NORMAL STATISTICS OF X, Y, XP, YP

STATION (12868) - CAPE KENNEDY
MONTH OF RECORD - DECEMBER
PERIOD OF RECORD - 1/56 - 12/70
ALTITUDE (KM) - 27
ALPHA ANGLE - 90.0

X = U(AT T)
Y = V(AT T)

XP = U(AT T + DT) - U(AT T)
YP = V(AT T + DT) - V(AT T)

QUADRAVARIATE NORMAL STATISTICS OF X,Y,XP,YP

MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
14.62	10.22	.1122	1.27	4.45	924

DT HR	MEAN XP	S.D. XP	R (X,XP)	MEAN YP	S.D. YP	R (Y,YP)	R (XP,YP)	R (XP,Y)	R (YP,X)
12	.03	5.58	-.2581	-.01	3.98	-.4494	.1149	-.0295	-.0296
24	.02	6.70	-.3074	.03	4.32	-.4595	.1468	-.0433	-.0322
36	-.03	7.58	-.3417	.02	5.02	-.5398	.1746	-.0798	-.0403
48	-.12	8.36	-.3691	-.02	5.34	-.5761	.1855	-.0906	-.0553
60	-.24	9.23	-.4073	-.04	5.69	-.6177	.1845	-.0952	-.0681
72	-.37	9.78	-.4283	-.10	5.85	-.6332	.1834	-.0958	-.0641

CONDITIONAL BIVARIATE NORMAL STATISTICS FOR XP AND YP

GIVEN X	GIVEN Y
14.17	1.30

MEAN XP	S.D. XP	R (XP,YP)	MEAN YP	S.D. YP
7.93	9.88	.1212	.86	3.97
7.98	9.73	.1241	.89	3.95
8.06	9.60	.1206	.77	3.74
8.17	9.50	.1138	.76	3.64
8.12	9.34	.1082	.75	3.50
8.11	9.24	.1150	.73	3.44

BIVARIATE NORMAL STATISTICS OF X, Y

STATION (12868) - CAPE KENNEDY

X = U(AT T)
Y = V(AT T)

MONTH	PER. OF REC.	ALT KM.	ALPHA DEG.	MEAN X	S.D. X	R (X,Y)	MEAN Y	S.D. Y	N
12	1/56 - 12/70	0	90.0	.60	2.67	-.2884	-.93	2.96	924
12	1/56 - 12/70	1	90.0	1.58	6.73	-.0011	.27	5.88	924
12	1/56 - 12/70	2	90.0	5.03	7.15	.0328	.52	5.56	924
12	1/56 - 12/70	3	90.0	8.37	7.51	.0932	.38	5.93	924
12	1/56 - 12/70	4	90.0	11.71	8.06	.1565	.70	6.67	924
12	1/55 - 12/70	5	90.0	14.54	8.83	.1728	1.16	7.71	924
12	1/56 - 12/70	6	90.0	17.52	9.42	.1966	1.21	8.47	924
12	1/56 - 12/70	7	90.0	20.50	10.52	.2218	1.49	9.32	924
12	1/56 - 12/70	8	90.0	23.56	11.75	.2809	1.85	10.26	924
12	1/56 - 12/70	9	90.0	26.78	13.34	.3083	2.12	11.53	924
12	1/56 - 12/70	10	90.0	29.88	14.63	.3070	2.30	13.01	924
12	1/56 - 12/70	11	90.0	32.49	15.08	.3057	2.35	14.06	924
12	1/56 - 12/70	12	90.0	35.01	15.16	.2937	2.69	14.62	924
12	1/56 - 12/70	13	90.0	35.94	14.09	.3166	3.00	13.54	924
12	1/56 - 12/70	14	90.0	34.50	12.85	.3365	2.70	11.17	924
12	1/56 - 12/70	15	90.0	31.00	11.28	.3111	2.32	9.41	924
12	1/56 - 12/70	16	90.0	26.50	9.52	.2693	2.01	8.39	924
12	1/56 - 12/70	17	90.0	21.64	8.35	.2719	1.53	7.49	924
12	1/56 - 12/70	18	90.0	16.24	7.33	.2434	1.01	6.13	924
12	1/56 - 12/70	19	90.0	11.16	6.84	.2763	.58	4.85	924
12	1/56 - 12/70	20	90.0	8.36	6.57	.2056	.32	3.95	924
12	1/56 - 12/70	21	90.0	7.37	6.52	.2894	.30	3.71	924
12	1/56 - 12/70	22	90.0	7.33	6.41	.2682	.10	3.33	924
12	1/56 - 12/70	23	90.0	8.23	7.02	.1909	.18	3.50	924
12	1/56 - 12/70	24	90.0	9.97	7.88	.1924	.48	3.58	924
12	1/56 - 12/70	25	90.0	11.89	8.68	.1841	.65	3.92	924
12	1/56 - 12/70	26	90.0	13.42	9.54	.1154	.85	4.21	924
12	1/56 - 12/70	27	90.0	14.62	10.22	.1122	1.27	4.45	924